The Journal of the American Medical Association

Published Under the Auspices of the Board of Trustees

VOL. LXI, No. 5 CHICAGO, ILLINOIS AUGUST 2, 1913

CLINICAL EFFECTS OF "NATURAL" AND "SYNTHETIC" SODIUM SALICYLATE

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A COOPERATIVE INVESTIGATION

It has been claimed that the sodium salicylate prepared from natural oils is superior as a therapeutic agent to the sodium salicylate prepared by synthetic methods. If this claim be justified, then the natural form of the drug should be prescribed by physicians; but if the claim be unsubstantiated, then the additional expense of the natural product is unnecessary and the synthetic drug is to be preferred. The Council on Pharmacy and Chemistry of the American Medical Association has undertaken to investigate various aspects of this question, and papers dealing with the literature,[1] the effect of the drug on animals[2] and the chemical purity of commercial sodium salicylate[3] have already appeared. In determining the relative therapeutic value of the two forms of sodium salicylate, however, clinical evidence of the proper sort is of paramount importance. The efficacy of the drug in relieving pain, and especially its value in acute rheumatic fever, can be determined only by studies on patients; while the toxic effects of the drug on animals cannot be transferred unreservedly to man, especially when we are dealing with patients already subjected to the pathologic changes of acute rheumatic fever.

It is not easy, however, to obtain reliable clinical evidence on such a subject. The personal equations of different observers, the tendency to bias, differences in the modes of administration, in the doses employed, and in the cases selected for treatment, all tend to obscure the significance of reported results. In order to obtain trustworthy data, it is necessary that a considerable number of observations on patients should be made under conditions which eliminate personal bias and reduce to a minimum the errors inherent in statistics.

METHOD OF INVESTIGATION

In order to obtain data as free as possible from error, the Council requested the cooperation of a number of clinicians of recognized standing. They were asked to use and to note the effects of test-powders of sodium salicylate without knowing the sources, natural or synthetic, of the individual powders. Should there be a marked difference in the two forms of the drug, it might be expected that an expert clinician could detect which form he was using. If differences were present, but less marked, a study of the collected reports should show these differences. The following letter was therefore addressed to the clinical consultants of the Council on Pharmacy and Chemistry, to all members of the Association of American Physicians, and to all members of the American Therapeutic Society:

July 20, 1911.

Dear Doctor:—The Council on Pharmacy and Chemistry has undertaken to investigate the question whether there are any differences in the actions of "artificial" and "natural" sodium salicylates and would appreciate your cooperation. In order to place the evidence above any possibility of prejudice or bias, it is planned to issue to a number of clinicians boxes of ten powders, each powder of 10 or 15 or 20 grains (as preferred) of sodium salicylate. Half of these boxes will be filled with a good quality of synthetic sodium salicylate (Merck's), the other half with sodium salicylate which is being specially prepared by Professor Lloyd from oil of birch. These boxes will bear only a serial number and the clinician will be asked to treat each patient from one box only, and to report whether his observations permit him to arrange the results under two groups, as also the criteria and data which he used in making the classification. A comparison of his grouping with the list actually supplied to him should then show whether there is a real difference between the two products.

The following outline used by a collaborator in a somewhat similar investigation may serve as an illustration but it is not intended to restrict the observers in any way:

"The hospital was supplied with boxes containing ten powders each of 20 grains of sodium salicylate (200 grains) in each box. The residents were directed to administer to the rheumatic patients one powder, in water, every hour, until toxic; using only the contents of *one* package on each patient. The unused powders were to be returned for control. The record was to state:

"1. The number of the sample.

"2. The age and sex of the patient—record number.

"3. The total dose taken.

"4. The effects noted: (*a*) relief of pain; (*b*) antipyresis; (*c*) diaphoresis; (*d*) ear-effects; (*e*) gastric effects; (*f*) delirium; (*g*) albuminuria; (*h*) acetonuria; (*i*) other data."

Please note on the enclosed card whether we can count on your cooperation and if so when you will be ready to start and whether you wish the powders to be of 10, 15 or 20 grains. The Council would also be grateful for any suggestions.

Of the physicians addressed, eighty-two expressed a willingness to cooperate in the investigation. To each of these were sent ten boxes each containing ten powders of the size which the physician wished to administer. Each box bore a number whereby the source of the salicylate could be recognized when the report was received. In group A, Boxes 1, 2, 4, 7 and 10 contained the syn-

1. Eggleston, C.: The Relative Value of the "Natural" and the Synthetic Salicylate: A Study of the Literature, THE JOURNAL A. M. A., Dec. 7, 1912, p. 2057.

2. Waddell, J. A.: A Comparative Investigation of the Effects and Toxicity of Sodium Salicylates of Natural and Synthetic Origin, Arch. Int. Med., December, 1911, p. 784.

3. Hilpert, W. S.: The Purity of Commercial Sodium Salicylate, THE JOURNAL A. M. A. April 12, 1913, p. 1137.

thetic salt, and Boxes 3, 5, 6, 8 and 9 the natural salt. In group B, Boxes 2, 3, 5, 6 and 8 contained the synthetic and 1, 4, 7, 9 and 10 the natural salt. The following letter accompanied the powders:

August, 1911.

Dear Doctor:—**As you have consented to cooperate with us in the sodium salicylate investigation, we are sending you ten boxes of sodium salicylate powders as requested for clinical tests, to determine whether there is any difference in the effects (desired or undesired) of the "natural" and "synthetic" substances. Each box bears a serial number and contains either "natural" sodium salicylate or "synthetic" sodium salicylate, the origin of which is recorded in this office. Please treat each patient from one box only and preserve a record of the phenomena. Preserve any unused powders for return to the laboratory, for control. The administration should be restricted to patients with typical acute articular rheumatism; or at least, other cases should be listed separately.**

At the end of the investigation, please report your results and state whether you can attempt to identify the origin of the powders by your results, and what criteria and data you have used in this classification.

The following outline used by a collaborator in a somewhat similar investigation may serve as an illustration but it is not intended to restrict the observers in any way:

(For outline, see previous letter.)

CLINICAL REPORTS

I was asked by Dr. Torald Sollmann, chairman of the Council's Committee on Therapeutic Research, to review and analyze the clinical reports that had been received. For various reasons a considerable number of those to whom powders had been sent were unable to furnish data. The following review is based on reports received from twenty-seven clinical investigators, embodying approximately 230 separate observations on the effect of the salicylate powders used. As might be expected, the reports varied widely in the completeness of the data furnished, in the modes of administration, and in the diseases treated. A few observations had to be discarded because the investigators had not noted the numbers on the boxes from which the powders had been taken. It was necessary to summarize each report before attempting a comprehensive analysis. These summaries will be published as an appendix in the reprints of this paper.

On attempting to review these reports, one is immediately confronted by the diverse modes of administration and by the different diseases treated. It is manifestly impossible to compare the results of those who gave 200 grains of sodium salicylate in ten hours with the results of those who gave 45 grains a day; or to compare the effects when only frank cases of rheumatic fever were treated with the effects when various other joints, or muscular or nerve pains were attacked. For this reason the reports are not readily comparable, one with the other. Nevertheless, since each observer received an equal number of natural and synthetic powders and used these indiscriminately, the results form a reliable basis of comparison between the two sets of powders, for the variations in administration, type of case, etc., tend to distribute themselves equally between the two classes of salts. Indeed, these variations are in a certain sense advantageous, for they permit some comparison of the effect of the two sets of salts under different conditions.

In Table 1 I have summarized the principal results of the fifteen more complete reports. The relief of pain and fall of temperature were tabulated only for what seemed to be cases of true rheumatic fever, while the diaphoresis, gastric disturbances and ear-symptoms were tabulated for each set of powders administered. Occasionally a single patient received two or more sets of powders so that the total number of observations exceeded the total number of patients. Under the

TABLE 1.—PRINCIPAL RESULTS OF FIFTEEN REPORTS

Observer	No. of Patients	Administration: Usual Dose Grains	Administration: Usual Interval	Administration: Total Amount	Relief of Pain: Relief N.*	Relief of Pain: Relief S.*	Relief of Pain: No Relief N.	Relief of Pain: No Relief S.	Relief of Pain: Not Noted N.	Relief of Pain: Not Noted S.	Fall of Temperature: Fall N.	Fall of Temperature: Fall S.	Fall of Temperature: No Fall N.	Fall of Temperature: No Fall S.	Fall of Temperature: Not Noted N.	Fall of Temperature: Not Noted S.	Diaphoresis: Present N.	Diaphoresis: Present S.	Diaphoresis: Absent N.	Diaphoresis: Absent S.	Diaphoresis: Not Noted N.	Diaphoresis: Not Noted S.	Gastric Disturbance: Present N.	Gastric Disturbance: Present S.	Gastric Disturbance: Absent N.	Gastric Disturbance: Absent S.	Gastric Disturbance: Not Noted N.	Gastric Disturbance: Not Noted S.	Ear Symptoms: Present N.	Ear Symptoms: Present S.	Ear Symptoms: Absent N.	Ear Symptoms: Absent S.	Ear Symptoms: Not Noted N.	Ear Symptoms: Not Noted S.
Barnes, K. P.	7	10-20	3 a day	200	1	1																												
Coleman, W.	24	30	3 hours	200	11	11	1	2			2	2	1	1			4	4	6	6	2	2	1	1	6	6	2	2	4	4	6	6	2	2
Hall, A. J.	3	20	2 hour	120	3	3					3	3					3	3					3	3					3	3				
Hall, J. N.	5	15	1 hour	120	3	3					3	3					3	3					3	3					3	3				
Hein, L. G.	10	30	3 a day	360	3	3					3	3					3	3					3	3					3	3				
Kerr, H.	6	10	3 a day	180	2	2					2	2					2	2					2	2					2	2				
Lucas, W. P.	4	10	3 a day	150	1	1					1	1					1	1					1	1					1	1				
Martin, C. F.	15	15	2½ hours	150	4	4					4	4					4	4					4	4					4	4				
Roper, J. C.	15	15	2½ hours	150	5	5	1	1			5	5	1	1			5	5	1	1			5	5	1	1			5	5	1	1		
Rudolph, R. D. W.	10	15	2½ hours	150	5	5	2	2			5	5	2	2			5	5	2	2			5	5	2	2			5	5	2	2		
Taylor, D.	16	20	1 hour	200	9	9	3	3			9	9	3	3			9	9	3	3			9	9	3	3			9	9	3	3		
Williams, F. H.	16	10	1 hour	100	5	5	3	3			5	5	3	3			5	5	3	3			5	5	3	3			5	5	3	3		
Withington, C. F.	10	15	1 hour	150	3	3	1	1			3	3	1	1			3	3	1	1			3	3	1	1			3	3	1	1		
Wilson, J. C.	10	15		120	1	1					1	1					1	1					1	1					1	1				
Totals	139				52	57	6	6	4	2	37	41	13	7	12	17	39	43	17	22	21	25	29	29	46	44	15	22	33	33	36	35	18	
N.* used					62	65					62	65					81	86					81	86					81	86				
S.* used					65	88					66	68					52	46					25	25					37	38				
Positive																																		
Negative																																		

* N. Natural salicylate; S. Synthetic salicylate. Relief of Pain and Fall of Temperature were tabulated only in what seemed to be cases of acute articular rheumatism. Other symptoms were charted for all powders given.

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columns "not noted" were included not only those cases in which the results were not noted, but also those in which the results were indecisive. Of 62 cases of rheumatic fever in which the natural sodium salicylate had been used, the pain was relieved in 52, or 85 per cent., and the fever fell in 37, or 60 per cent. Of 65 cases in which the synthetic sodium salicylate had been used, the pain was relieved in 57, or 88 per cent., and the temperature fell in 41, or 63 per cent. Diaphoresis occurred in 43 of 81 instances when the natural salt was used, or 52 per cent., and in 39 of 86 instances when the synthetic salt had been used, or 46 per cent. Similarly gastric disturbances occurred in 20 of 81 (25 per cent.) observations with the natural salt and in 20 of 86 observations (23 per cent.) with the synthetic salt. Ear symptoms occurred in 37 per cent. of the tests with the natural and in 38 per cent. of the tests with the synthetic salt. These slight differences, which, if anything, favor the use of the synthetic salt, are probably due to the ordinary statistical variations and, with a much larger series of cases, they would probably tend to disappear.

Various cerebral disturbances were occasionally noted. Drowsiness or stupidity was noted in one case in which the natural salt had been given, and in three cases in which the synthetic salt had been given. Slight delirium or confusion was noted in five patients receiving the natural salt and in three patients receiving the synthetic salt. More severe delirium was noted in four patients, two of whom received the natural salt and two the synthetic salt. Of the former, one was attributed to delirium tremens, and the other to cerebral rheumatism. One patient who received the natural salt developed melancholia.

Suppuration of the ear occurred in one patient who had received the natural salt. A rash appeared in one patient who had received the synthetic salt. Albuminuria developed in eight patients after administration of the natural salt and in seven patients after administration of the synthetic salt. Acetone developed or was increased in six patients after taking the natural salt and in four patients after taking the synthetic salt. The total number of urinary examinations reported was relatively small.

Two patients having acute articular rheumatism died during the administration of sodium salicylate. One of these patients received 70 grains of the synthetic salt and the other 60 grains of the synthetic salt. These amounts were small, being less than one-half of the total dosage administered to the majority of patients tabulated. The first of these patients died with manifestations of circulatory insufficiency and dilated heart.

The second showed profuse sweating, epistaxis and wild delirium, dying with cerebral symptoms. In each case the death is to be attributed in the main to the rheumatic infection, which may on the one hand produce a definite form of acute myocarditis with myocardial insufficiency, and on the other hand severe cerebral symptoms, the so-called cerebral rheumatism. The administration of salicylates to such patients does not seem in general to be associated with unusual danger and among the cases reported by Dr. Taylor was a patient with cerebral rheumatism who received on one occasion 1,000 grains of the synthetic salicylate within 60 hours and on a second occasion he became delirious after taking 320 grains of the natural salt, the delirium being attributed to the rheumatism. Even though for the sake of argument, one attributes these deaths in part to the salicylates administered, there is no reason for assuming that the natural salt would have acted differently from the synthetic salt, for all the other data of this report show that the action and the toxicity of the two are identical.

CONCLUSIONS

The result of the cooperative investigation as to the relative therapeutic value of sodium salicylate derived from natural sources and of sodium salicylate prepared by synthetic methods shows no essential differences between the two. This was demonstrated not only by the opinions of those investigators who attempted to classify the effects of their powders but also by a study of all the reports submitted. The slight variations in one direction or the other as shown by our figures are such as one expects in any set of statistics. Indeed, the statistical variations in these figures are surprisingly small. Allowing, therefore, for statistical error, one must conclude that natural and synthetic sodium salicylate are indistinguishable so far as their therapeutic and toxic effects on patients are concerned.

THE TECHNIC OF ROENTGEN-RAY EXAMINATION OF THE GASTRO-INTESTINAL TRACT, AND THE INTERPRETATION OF SCREEN AND PLATE FINDINGS *

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The fundamental principle of Roentgen-ray examinations of the stomach and intestine is the visualization of their outline by filling them with substances opaque to the ray, a principle which we owe to Rieder, of Munich, who, in 1904, first used bismuth subnitrate for the purpose. From this has evolved the present-day technic of radiography of the digestive tract, the evolution being contributed to in minor particulars by numerous roentgenologists, and in major particulars by a few men of whom Holzknecht and Haudek stand out with signal prominence.

The occasional toxicity of bismuth subnitrate soon led to its supersession by bismuth subcarbonate and later the oxychlorid. Zirconium oxid has also been employed to some extent abroad. Chemically pure barium sulphate, because of its cheapness, has come into very general use both for enemas and for the opaque meal.

Bismuth subcarbonate is in common use. By its alkalinity peristaltic activity is depressed somewhat. The oxychlorid being lighter, is consequently better held in suspension. It does not interfere with peristalsis.

The finding of a suitable medium for the administration of the opaque salts by ingestion at the time of examination has given some difficulty. It is desirable that the mixture be more or less palatable, that it be thick enough to hold the opaque salt in good suspension, yet not too thick to fill all recesses, that it be not too stimulative of gastric secretion, and that it do not suppress peristalsis or produce early pyloric closure. When a large number of cases are examined the cost becomes a matter of importance.

The vehicles commonly used include water, milk (plain, condensed or fermented), mucilage of acacia,

* Read in the Section on Surgery of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.
* From the Mayo Clinic.

potato-starch, and various cereals. Each of these has its advantages and disadvantages, depending on the purpose in view. For the six-hour Haudek meal a cereal, such as one of the wheat breakfast foods, with a little sugar and cream or fruit syrup, is desirable. At the beginning of the screen examination a little plain water and bismuth facilitates palpatory outlining of the borders of the stomach, and by not exciting the pyloric reflex can ordinarily be expressed into the cap and duodenum, thus visualizing them. For complete filling of the stomach, preparatory to radiography, the bottled proprietary fermented milks are admirable. They are relished by most patients, hold the bismuth in good suspension, and do not hinder peristaltic action. Mucilage of acacia, freshly made from the powder or gum, is effective, but not pleasant to take. The semi-condensed milk holds up to the bismuth fairly well and is palatable. Owing to its contained fat, peristalsis is much diminished. Two ounces of potato-starch in 6 or 8 pints of water, well stirred and brought to the boiling point (after the Goure-vitsch formula) makes an excellent medium. It can be flavored with fruit syrup to suit the taste.

Fig. 1 (A—80073, X-ray 19835).—W. E. W., woman, aged 44. Radiogram shows a "fish-hook" stomach. There was no residue after six hours. It shows a projection on the lesser curvature, which is the bismuth-filled crater of a callous ulcer, and a marked transverse contraction of the greater curvature (incisura) opposite this niche. Diagnosis: Callous ulcer on lesser curvature. Operation: Excision of ulcer on lesser curvature about 5 inches from pylorus with surrounding fibrous tissue; gastroduodenostomy. Pathologic report: Gastric ulcer, scar tissue. (Clinically, this patient's symptoms were quite insufficient to establish the diagnosis and she was about to be sent home when an x-ray examination was made.)

Fig. 2 (A—83115, X-ray 20709).—A. C., woman, aged 62. Radiogram shows "fish-hook" stomach with a moderately large projection on the lesser curvature which was regarded as a perforating ulcer. No transverse contraction seen. Small residue after six hours. Operation: Resection one-half middle of stomach; end-to-end union. Pathologic report: Carcinomatous ulcer with glandular involvement.

Fig. 3 (A—80092, X-ray 19816).—Mrs. J. K., aged 37. Radiogram shows cap and duodenum visualized throughout, with lagging of bismuth. No residue after six hours. This picture is frequently seen in duodenal ulcer and illustrates the necessity of correlating the x-ray with the clinical findings. Operation: Cholecystectomy for typical strawberry gall-bladder with a diverticulum.

Fig. 4 (A—74843, X-ray 17385).—O. H. L., man, aged 57. Radiogram shows marked filling defect of the pars cardiaca and media. Possible carcinoma of stomach. Operation: Carcinoma, cardiac end of stomach. Extensive glandular involvement. Also metastasis in pelvis.

The essentials of an opaque enema are: (1) that the mixture shall not be irritating to the bowel; (2) that it shall be sufficiently large to fill the entire colon; (3) that it shall be sufficiently fluid to flow freely and fill recesses, yet thick enough to hold the bismuth in good suspension.

Barium sulphate, bismuth subcarbonate and bismuth oxychlorid are each commonly used as a base. Barium sulphate serves the purpose well and is far cheaper than bismuth. Bolus alba (kaolin) is added by some.

For mediums, mucilage of acacia, fermented milk, condensed milk, mucilage of tragacanth, potato-starch, and other vehicles are employed. Any one of them can be used satisfactorily. The potato-starch is more economical, but has the occasional disadvantage of becoming lumpy and obstructing the enema tube unless filtered.

The medium should be from 50 to 60 ounces in amount, should contain from 4 to 6 ounces of bismuth (subcarbonate or oxychlorid) or from 6 to 8 ounces of barium sulphate, thoroughly mixed, should be warmed to or slightly above the body temperature, and should be administered by gravity pressure from a height of from 3 to 6 feet. The ordinary hard-rubber saline tip is sufficient, the so-called high enema being unnecessary. The rubber tubing should be equipped with a spring-clip cut-off.

After completion of the examination the patient should evacuate the enema at once. I have not found purgatives necessary afterward, nor has caking of the bismuth or barium in the bowel, as mentioned by some radiologists, occurred to my knowledge.

In those cases in which the opaque enema meets with complete obstruction at any point, it may be supplemented by an opaque meal. By watching the progress of the latter the proximal limit of the obstruction can thus be determined.

Proper preparation of the patient for examination is important. In order that the bismuth may fill and outline the stomach and bowel it is obviously necessary

that they be evacuated beforehand as completely as possible. In most cases this can be effected by the administration of a saline, or castor oil the evening previous to the examination, and, if an opaque enema is to be given, the patient should also wash out the bowel with a soap-suds injection early on the morning of examination. Even with these precautions there will be more or less annoyance to the examiner from gas in the bowel, and the roentgenologist who can devise a technic which will entirely eliminate this annoyance will indeed be

Fig. 5 (A—80026, X-ray 19406).—R. B. B., man, aged 37. Radiogram shows obstruction of descending colon and sigmoid, probably due to tumor. Exploration: Tumor of sigmoid 7 inches long fixed to the bladder and left side of pelvis. Inoperable carcinoma.

fortunate. The patient should abstain from food from the evening previous to examination until after its completion.

A uniform technic in regard to opaque ingesta and injecta will give a stable basis of comparison and greater uniformity of results.

PROTECTION

Fluoroscopy being so advantageous in gastro-intestinal work, attention is directed anew to its possible dangers. With the disasters which have befallen pioneers in Roentgen-ray work fresh in our minds, we have an acute, perhaps exaggerated sense of the hazard attending such work, especially screen work. I would not urge any roentgenologist to take risks which to him seem imprudent and which might possibly result in his injury, but candor compels me to express my very sincere belief that we have gone from one extreme to the other, from extraordinary and ignorant rashness to extraordinary and unnecessary caution. This excessive caution is shown in much of the modern screen apparatus. In the effort to secure protection many of the installations have been made complicated, unwieldy, and often inefficient. Access to the patient for close inspection and palpation has been rendered difficult or even impossible, and the screen examination thus "denatured" loses half its interest and value. In a personal communication, Haudek states that with quite simple apparatus he has screened over 12,000 patients without harm to himself or to them.

The apparatus which I have used for several years, making hundreds of screen examinations in that period, without the slightest injury to the patients or myself, of which I am aware is not at all complicated. The tube is encased in a box thickly painted with lead oxid, mounted on a shaft, which is given free vertical and lateral movement by means of counterweights within the upright standards at each end of the shaft. The opening in the tube-box has a rectangular diaphragm. Immediately in front of this is a shield of sheet lead 1/4 inch thick, 7 feet high and 5 feet wide. A central panel of this shield is cut away and replaced by a thin sheet of aluminum against which the patient leans. The screen hangs in front of the patient from an arm attached to the tube-box with which it moves in unison. I usually wear a leaded rubber apron and gloves. A portable switch-table stands conveniently at the left, and a foot-switch on the floor.

Fig. 6 (A—77396, X-ray 18393).—Hour-glass stomach, "fish-hook" type, displaced to the left, extending below umbilicus, showing diverticulum just outside stomach outline on lesser curvature. Diverticulum contained bismuth after the upper loculus had emptied. Diagnosis: Diverticulum due to perforating ulcer of the stomach. Operation: Perforating gastric ulcer of stomach, perforating into the liver.

After the screen examination, plates are made with the patient in a standing posture, an adjustable tube-stand being used, and the cassette fixed on a movable wooden bracket attached to the wall.

For examinations of the colon we use a lead-lined wooden table, open on the side away from the operator.

Beneath this the tube, mounted on an arm, swings freely in every direction in unison with the screen attached to another arm above the table. At the foot of the table is an upright with pulley and cord for adjusting the enema-container at various heights. The top of the table is of canvas, on which the patient lies. The tube has an iris diaphragm.

Before beginning a screen examination the observer will find it advantageous to remain in the dark-room for

Fig. 7 (A—79785, X-ray 19282).—D. A. C., man, aged 52. Screen showed a large six-hour residue. Tremendous peristalsis showing 3 cycles. Diagnosis: Pyloric obstruction. Operation: Large duodenal ulcer, size of a penny. Very marked obstruction, lumen reduced to size of a lead-pencil. Operation Heinecke-Mikulicz type, without pyloroplasty.

from ten to twenty minutes in order to give his eyes a maximum of accommodation. He will thus be enabled to see details on the screen which would otherwise be invisible. A pair of closely-fitting, smoked-glass goggles, to be worn whenever it is necessary to turn on the room lights, will help to maintain the accommodation and lessen eye-strain.

A ROUTINE EXAMINATION OF THE STOMACH

Having taken an ounce of castor oil the evening before, the patient reports in the morning without breakfast. He is then given an ordinary portion of wheat-meal porridge into which two ounces of barium sulphate has been well mixed, together with a little sugar and cream. He is directed to abstain from further food until after the examination and to return six hours later. On his return he is stripped down to the hips; the screen is placed against the abdomen and the presence or absence of residue in the stomach from the morning meal noted.

Next the "head" of the barium column, that is to say, the most advanced position in the intestine of the six-hour meal, is determined. Commonly this will be in the cecum but it may be anywhere from the stomach to the rectum, depending on the patency and motility of the tract.

The patient now drinks rapidly 6 or 8 ounces of water containing 1½ to 2 ounces of bismuth subcarbonate, well stirred. Its entrance and descent into the stomach are carefully watched. When all has been drunk, the observer palpates toward the pylorus and by this effleurage is often able to drive a quantity through into the duodenum, thus visualizing it. He then presses the bismuth in the stomach upward, watching the outline of the greater and lesser curvatures.

Sixteen ounces of potato-starch pap containing 2 ounces of bismuth subcarbonate and flavored with syrup of raspberry are then drunk by the patient. Usually this fills the stomach quite well, outlining it clearly. Irregularities which may have been previously observed with the bismuth water are palpated to determine their nature and permanence. Mobility and peristalsis are also determined.

Two or three plates are now made, the patient standing with his abdomen against the plate-holder, with the upper edge of the plate at or near the nipples.

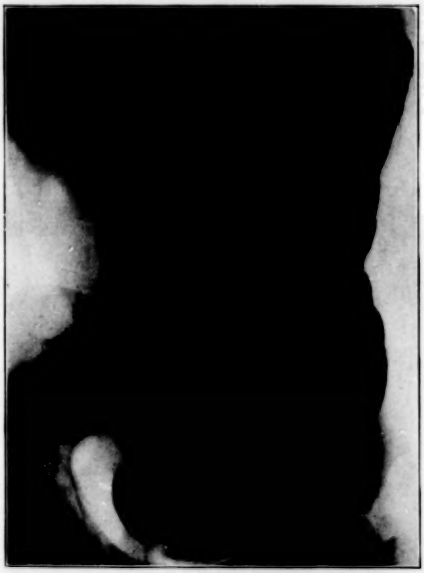

Fig. 8 (80853, X-ray 19797).—Marked redundancy of sigmoid with loop folded on itself. Marked obstruction transverse colon near splenic flexure, no bismuth going beyond point of obstruction. Remainder of transverse, ascending colon and cecum contain a small amount of colonic gas. Diagnosis: Probable tumor of transverse colon. Operation: Carcinoma of transverse colon.

A ROUTINE EXAMINATION OF THE COLON

Having taken an ounce of castor oil the evening before, and a cleansing soap-suds enema the morning of examination, the patient strips and lies on his back on the colon-table. The enema, 16 ounces of mucilage of acacia and 3 cans of condensed milk with 8 ounces of barium sulphate, is warmed to body temperature, put

into the container and elevated from 3 to 6 feet above the table. The syringe-tip is introduced into the rectum and the flow released by the spring-clip. On the screen the enema is seen slowly to fill the ampulla, then successively the sigmoid, descending, transverse and ascending colons and the cecum, occasionally passing the ileocecal valve into the ileum, and, more rarely, filling the appendix.

The abdomen is palpated at intervals to determine the mobility and elucidate eccentric loops and apparent kinks of the bowel. If definite obstruction, not disappearing on massage is met with, or if the patient complains greatly of discomfort, administration of the enema is stopped.

The plates (14 by 17) are made with the patient standing or reclining, or both.

SIGN GROUPS

The various diagnostic indications above discussed[1] may be synthesized into sign complexes. For example, the radiologic evidences of gastric ulcer comprise:

1. The diverticulum of perforating ulcer.
2. Visualization of the bismuth-filled crater of a callous ulcer.
3. The incisura, or transverse contracture, indenting the greater curvature.
4. Localized pressure tender point on the lesser curvature.
5. Residue after six hours.
6. Acute "fish-hook" form of the stomach, with displacement to the left and down.
7. Delayed opening of the pylorus.
8. Settling of the bismuth to the lower pole of the stomach, such as is seen in hypotonicity or atony.

The Roentgen-ray signs of gastric cancer include:

1. Filling defects.
2. Diminution in size.
3. Lessened mobility.
4. Stiffening and gaping of the pylorus, as shown by a free and continuous outflow of bismuth from the stomach.
5. Absence of peristalsis from affected portions of the wall of the stomach.
6. Antiperistalsis.
7. Residue after six hours, if the pylorus is obstructed, or, on the other hand,
8. If the pylorus is unobstructed, hypermotility, with early clearance of the stomach and an advanced position of the six-hour meal in the intestine.

In duodenal ulcer there may be:

1. Early free opening of the pylorus, with early clearance of the stomach.
2. Lagging of bismuth in the duodenum.
3. Residue in the stomach (sometimes in the duodenum) after six hours, if there is an obstruction from scar contraction.
4. Pressure-tender point over the duodenum.
5. Dilatation of the cap.
6. Irregular outline of the cap or duodenum.
7. Diverticulum of perforating ulcer.
8. Vigorous peristalsis, especially if there is obstruction.

Radiologic diagnosis of duodenal ulcer, unless corroborated by clinical data, is in most instances a mere guess. Excluding obstructive cases, the Roentgen-ray appearance of duodenal ulcer is often seen when the actual lesion is elsewhere, as in the appendix or gall-bladder.

1. See reprint of article in full for discussion of diagnostic indications.

INTERPRETATION OF THE PLATE

Discussion of the relative superiority of the screen or the plate is useless. There is no competition between them. Each serves certain purposes. Both are necessary for satisfactory gastro-intestinal work.

The plate gives a permanent record. It gives finer detail, and permits longer and closer study of minutiae than does the screen. Stereoscopic plates are especially interesting and valuable in many instances.

Recording, as it does, a single momentary phase of the conditions, interpretation of the plate must be guarded. Compression of the stomach between the spine and the plate may produce an apparent filling defect of the pyloric end of the stomach or even an apparent hour-glass. Incessant systole and diastole of the antrum make it appear vague and indefinite on the plate.

Bismuth poorly suspended may settle irregularly and give rise to the appearance of filling defects on the plate. What seem on the plate to be kinks, narrowings or obstructions of the small or large intestine, are very rarely such. Even serial plates have an element of uncertainty.

Mobility, peristalsis, the presence or absence of deformities, filling defects, or incisurae, must all be determined by the screen examination, during which every phase of movement can be seen, the patient can be turned about for vision at different angles, and the effect of palpation can be noted.

METHOD OF RECORDING FINDINGS

At intervals during the screen examination, the observer or his assistant hastily notes on a scratch sheet the more important facts elicited, together with any striking features of the anamnesis. Most of this is easily done by checking or underscoring the appropriate item.

From a comparison of the screen findings with the plates the final conclusions are drawn. These are entered, mostly by underscoring, on the permanent record sheet.

Visualization of a cancer of the stomach with obvious filling defects, or a gastric ulcer with a characteristic incisura or a niche is so dramatic that the exuberant enthusiasm thus aroused has unfortunately created the impression in some quarters that the Roentgen-ray is ready to supersede the ordinary clinical methtods of diagnosis. This impression should be discouraged, for in the vast majority of instances the ray is only a link in the chain. The x-ray is not a rival of clinical methods, but a most valuable adjunct thereto, and worthy of routine employment.

To maintain a proper conservatism in the interpretation of roentgenologic findings is difficult, yet absolutely necessary. We should remember, among other things, that only a very small percentage of those who complain of gastric symptoms have gastric lesions.

Roentgenologists have reason to be proud of the tremendous advances which have been made in the radiology of the digestive tract, but it behooves us to be careful that the record shall not be marred by overenthusiasm or by long lists of conclusions drawn from short lists of cases.

The Roentgen-ray findings, unless extraordinarily marked and decisive, should be correlated with the anamnesis, the laboratory reports, the clinical data, and always with common sense. There are cases of ulcer and cancer of the stomach and obstruction of the bowel in which the combined fluoroscopic and skiagraphic

findings are of themselves sufficiently determinative to justify a diagnostic opinion. But there is a greater number of cases in which the combined x-ray examination will merely elicit suspicious or even only eccentric appearances, a percentage of these being due to real lesions, a larger percentage accompanying only functional disturbances. Here opinions should be advanced with the greatest caution, and the final diagnosis should rest on all the evidence obtainable from every source. This necessitates an extensive correlation, a broad knowledge based on experience, and a careful judgment.

ABSTRACT OF DISCUSSION

DR. ARCHIBALD MACLAREN, St. Paul: Plate machines and coils occasionally will take stomach and intestine pictures that are really very good; but both of these machines are so unreliable that they cannot be depended on. After spending a large sum of money for the largest coil made I had to throw it away because it would not make the kind of pictures that I wanted. The only machines that are certain are those of the dynamo type, of which there are three or four good makes on the market.

I wish to confine my remarks to one phase of this question, and that is gastroptosis. When Goldthwaite of Boston showed the first stomach and intestine picture some years ago, before the Ramsey County Medical Society, we were stimulated to see whether we could not get pictures of the stomach and intestine which were worth while. With the Snook machine my associate, Dr. Daugherty, commenced to take pictures of the stomach, and found first, that it was much lower than we had supposed and much lower than we had seen it even on the operating-table. The next thing of importance was the relaxation of the pyloric end of the stomach. The first cases in which we made these pictures were mostly of young women of the neurasthenic type, who had failed to get well after operation in our own hands for a chronic relapsing appendicitis. I have seen many of these cases, and without the stomach pictures we have not been able to be sure that they were cases of chronic appendicitis.

The statement has often been made that it takes a year to get over the operation for chronic appendicitis, but that is not true; many of these slow cases after operation never had any trouble with the appendix. That is the type which the internists and neurologists ever since the time of Weir Mitchell have been curing with the rest-cure. Put those patients to bed when they have these relaxed atonic stomachs, give them six meals a day, and they get well much better than they do after an operation.

DR. JAMES T. CASE, Battle Creek, Mich.: Dr. Carman did not discuss the relative value of roentgenography and roentgenoscopy. I believe he relies considerably on screen examination. I should like to ask him, in closing, to make a statement as to his practice. Roentgenograms present a very nice map of the static conditions present, but give relatively little of the information obtainable by means of fluoroscopy when one employs intelligent manipulation of the bismuth shadows under the guidance of the fluorescent screen examination.

A laxative is recommended by Dr. Carman before each examination, both before the bismuth meal examination and before the injection of the bismuth clysma. My idea is that it is best to omit laxatives. We want to examine the patient as he lives from day to day, and therefore in studying gastrointestinal motility, I think that it is important not to give laxatives before the bismuth-meal examination. The bismuth injecton gives but little information as to the motility of the bowel.

Dr. Carman said that he attached small importance to the fact that the appendix is occasionally shown in the plate. Whether or not it is pathologic for the bismuth to pass into the appendix, I am not sure, but the fact remains that when the shadow of the bismuth can be seen in the appendix, a number of facts may be ascertained with very great accuracy. The size and shape of the lumen of the appendix; whether it is narrow near the cecal end and likely to be the seat of stasis, or whether it is broad uniformly throughout its length; whether the bismuth remains in the appendix for only a few hours or for fifteen or twenty days; the position of the appendix—whether it is retrocecal, down in the true pelvis or adherent, and other such facts may be ascertained. Accurate identification of a localized pressure pain-point in the appendiceal region is often possible by this method. That this information is frequently obtainable is obvious when I tell you that one-fifth of the cases I have examined following a bismuth meal, in which the appendix has not already been removed, show a patency of the appendix. I now have over two hundred and fifty individual cases in which the appendix has been patent and, therefore, capable of being studied.

DR. C. E. RUTH, Des Moines, Iowa: I believe that we somtimes make mistakes in reading these findings. I have felt several times that, while I had my information in advance of what the picture was supposed to show, I had better have the man who took the picture interpret it for me. I was glad to hear what Dr. Carman said with reference to exploratory operations, to determine what is the matter in the abdomen, having been too frequent in the past. Many of the patients with chronic appendicitis who have been operated on are in no sense relieved because there was nothing wrong with the appendix originally or because of adhesions or complications that resulted from the operation. Only a few days ago a patient came to me who was operated on five years before, with absolutely no relief whatever from the symptoms of supposed appendicitis, for which the appendix had been removed. A good fluoroscopic and roentgenoscopic examination gave us a picture that showed the cause of the trouble. The cecum was low and the colon had doubled back on itself forming an acute angle at the hepatic flexure then down into the pelvis, thence upward at another acute angle to the left somewhat near the normal position of the hepatic flexure. It was impossible to get the bismuth to pass in any considerable quantity. At a point almost on a level with the normal site of the iliac crest, there was a sharp angulation as the transverse colon attempted to reach the splenic flexure. We diagnosed a band causing partial obstruction at this point. The operation showed the band to be present. It was omentum as large as my finger passing from what we believe to be the normal position of the middle of the transverse colon down to the right iliac fossa, being anchored there firmly. It was quite evident that this was the result of the omentum having been forcibly drawn down and secured by suture or other means at the time the operation for supposed appendicitis was done or, having been present before, was the cause of the symptoms supposed to be produced by appendicitis. The patient experienced relief as soon as the discomfort from the operation was passed which released this band. From the many roentgenograms that have been taken recently I feel that we must reduce at least by half the exploratory operative undertakings that have been made in the past, until we have secured a good picture of the condition of the stomach and colon and have evidence that will enable us to plan for an operation intelligently, and that we must do this before we have opened the abdominal cavity and pawed over its contents for half an hour to get an intelligent idea of the needs of the case.

DR. B. W. SIPPY, Chicago: The maximum benefit from roentgenoscopy is to be obtained only in conjunction with careful clinical work. If we are to avoid numerous mistakes in our work, we should compare the roentgenoscopic findings with most careful clinical observation. We must not leave out any of the older methods of determining the conditions present if we wish to succeed. The Roentgen ray alone, as Dr. Carman stated, may lead to serious mistakes.

One word as to the use of atropin in connection with spasm. We have been led to believe that spasmodic contractions of the stomach and bowel will almost invariably show a great tendency to become relieved if we give atropin or belladonna. I want to report one case in which that was most deceptive. The roentgenogram showed an hour-glass stomach. It was a beautiful picture, taken by a competent man. The patient

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was referred for operation. Three or four pictures taken in succession showed the hour-glass stomach almost in the same position each time. Two or three weeks afterward the condition present was the same. There were no clinical symptoms and a careful analysis of the case showed that there had been pain present almost as in gall-bladder disease, but other symptoms were not present—nothing in the blood-vessels or stomach-contents; in fact, observing the patient for a week at a time failed to elicit any clinical evidence of disorder of the stomach, and still the pictures showed the hour-glass stomach, no matter whether a plate or the screen was used in the examination. Under three weeks' use of atropin and belladonna, pushed to physiologic limit, the hour-glass condition still existed in the same position. The picture showed this hour-glass stomach continuously and justified surgical intervention. This one case shows positively that the Roentgen ray is either of enormous value or absolutely worthless. The operation showed that there was nothing wrong with the stomach at all. There was a persistent spasmodic condition of the stomach lasting for four weeks, and it remained absolutely unchanged by enormous doses of atropin and belladonna.

DR. M. F. PORTER, Fort Wayne, Ind.: Had a picture been taken of that stomach prior to the operation, while the patient was anesthetized, a diagnosis of absence of hour-glass contraction of the stomach would have been made. It is a good plan occasionally to take a picture under anesthesia.

DR. R. D. CARMAN, Rochester, Minn.: With reference to Dr. Case's remarks about the use of the screen I wish to say that all our patients are screened carefully. Plates are made only for reference purposes and to detect those details which might be overlooked on the screen. In regard to the use of cathartics, we would rather have the stomach empty and be able to exclude a filling defect due to cancer, than to know anything about the motility. This can be much more accurately determined by the gastro-enterologists. With reference to the appendix, I do not think we need worry about that. MacCarty observed only five or six normal appendixes in his examination of over 25,000 specimens. In the hour-glass stomach, which Dr. Sippy mentioned, I think possibly the contraction was due to a small ulcer or erosion which was not detected by the surgeon. These small ulcers or erosions which may produce a persistent hour-glass contraction of the stomach, even not affected by enormous doses of atropin and belladonna, such as were given in this case, could be easily overlooked. There certainly must have been an ulcer or erosion in this case.

INTRACRANIAL DIVISION OF THE AUDITORY NERVE FOR PERSISTENT TINNITUS *

CHARLES H. FRAZIER, M.D.
PHILADELPHIA

The surgery of the cranial nerves offers an interesting field for those who have made the treatment of nervous lesions an object of especial study. Perhaps because the symptoms to which these lesions give rise are not of serious moment in that they do not threaten life, or whatever may be the explanation, the fact remains that an insignificant number of people avail themselves of the relief that surgery affords. How many there are, who for a greater part of their lives endure the unpleasant disfigurement that follows a complete facial palsy, without so much as considering the possibilities of correction that surgery offers! And yet the facio-hypoglossal or the facio-accessory anastomosis is an operation carefully planned and fully justified by the results. Similarly with trigeminal neuralgia, it may be said that whether because of ignorance or indifference on the part of the profession or prejudice on the part of the patient, there are a surprising number who for years suffer as excruciatingly as they do needlessly. It is not an exaggeration to say that the majority of patients with trigeminal neuralgia sent to me for advice and treatment have been victims of the disease for at least ten years and many for twice as many, and this in face of the fact that absolute relief may in many instances be afforded without resort to a general anesthetic or the risks, real or imaginary, of an operative procedure, as is the case with alcoholic injections.

I have taken this opportunity to dwell on the delay and procrastination in resorting to surgical procedure, because it seems to me a matter of very considerable moment. There is a woeful indifference to the actual needs and comfort of patients, not only those suffering from conditions already mentioned, but from tumors and lesions associated with increased intracranial tension. The records of cases in my clinic reveal the rather pathetic situation of two out of three patients already blind, that is with an optic atrophy so far advanced that recovery of vision is entirely out of the question. Of all the benefits to be derived from operative procedures in this class of cases, preservation of vision is perhaps the greatest and at the same time the one most longed for by the patient. Now, the surgeon does not see these cases, as a rule, as soon as the neurologist, and the latter has the greater opportunity of impressing on the family physician the obligation, clearly his, to lay clearly and fairly before the patient the possible accomplishments of surgical therapy. The so-called expectant form of treatment so popular and so delusive is, as Sir Victor Horsley says, not treatment at all, but in most instances a tacit acknowledgment on the part of the physician that he has been unable to make a diagnosis or, if not, to inaugurate an effective course of treatment.

Up to the present time surgical therapy has been applicable to the treatment of functional disturbances in only three of the cranial nerves—the trigeminal, facial and auditory—and of these the auditory nerve has been the last to be brought within the scope of surgical procedure. Now what has been said of the infrequent resort to surgical measures for the relief of lesions of the trigeminal and facial nerves may be said with equal, if not greater, force, of the eighth or auditory nerve.

The operation which I am about to describe is the intracranial division of the auditory nerve. There are several circumstances in which this procedure may be resorted to with propriety. In 1908, Dr. Charles K. Mills discussed the propriety of this operation for the relief of aural vertigo, and so far as I know the operation had not been thought of before in this connection. His patient was a woman in her fifty-fifth year, and the method of procedure and the outcome of the operation have already been made a matter of record.[1] One naturally inquires whether as much relief might not be derived from the removal of the semicircular canals, an operation perhaps less formidable, and therefore to be given preference. There is no doubt but that the latter operation should be selected when the vertigo is unassociated with tinnitus, but it so happens that in many instances we find the vertigo and tinnitus combined, and it is for this particular situation that the

* Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Surg., Gynec. and Obst., November, 1912.

operation on the auditory nerve is more specifically indicated.

Consideration should be given to relief that might be afforded certain forms of persistent otalgia by division of the auditory nerve. So far as I know there are no available records in which the effect of this operation has been tried, and the situation is somewhat complicated by the fact that, as Hunt[2] has pointed out, there may be, as one of the underlying factors, an associated lesion of the nervus facialis. We are all familiar with the clinical syndrome which Hunt has elaborated from his careful and original studies of the sensory mechanism of this nerve through its various connections; the relation of the geniculate ganglion to the interior of the auricle and the external auditory canal, the connection of the ganglion with the tympanic plexus, etc. If, as Hunt maintains, there may be in certain cases of persistent otalgia a neuritis of both the seventh and eighth nerves, it would be necessary to divide them both. To be called on to divide both nerves would simplify rather than complicate the intracranial technic, and the inevitable facial palsy might be considered an unsurmountable objection, although the patient might prefer the consequent facial asymmetry to the continuation of his affliction. In this connection, however, it is worthy of mention that in some instances a preexisting facial palsy is a part of the syndrome, and under such circumstances the facial nerve could be divided with impunity.

For final consideration of the indications for this operation, there remain cases of persistent and intractable tinnitus. Ordinarily, tinnitus aurium responds to local treatment, but the cases to which I have reference are those of a type so severe as to be the underlying cause of grave neurasthenia or serious mental disturbances, and both have been the cause of threatened suicide. In some instances, the tinnitus may be the only affliction; in others it is associated with vertigo or otalgia. To be sure, the selection of cases is a matter of considerable importance, and whenever possible those of central origin should be excluded. The appropriate cases are those in which the disease is labyrinthine in origin; it may originate in the vestibular ganglion, in the cochlear ganglion or in both, but as there is no means of separating the cochlear from the vestibular division, the entire auditory trunk must be sacrificed. It may be said further that the most promising cases are those in which there is loss of air conduction, with preservation of bone conduction, cases with definite cochlear lesions in which the tinnitus is low-pitched.

No doubt the deafness resulting from complete section of the auditory nerve has occurred to you as a possible objection to the operation, and this would have to be given consideration were it not for the fact that as a rule the patient is already deaf on the affected side.

Time will not permit of a consideration of the conditions which are responsible for the development of tinnitus, but I should like here to refer to an interesting case which, within the last year, was brought to my attention:

History.—The patient, a comparatively young man, in his thirty-fourth year, was sent to my clinic by Dr. L. C. Suttner of Walla Walla, Washington. He had been struck on the head by a falling limb of a tree. Immediately after the accident he became unconscious and remained in this state for five hours. Almost immediately after regaining consciousness, five hours later, he observed a ringing in his right ear. On leaving his bed he noticed that in going up or down stairs, when standing with eyes closed, or in turning his head suddenly, particularly to the right side, he became dizzy and occasionally became nauseated. In addition, there was impairment of sensation in the distribution of the trigeminal nerve, particularly in the third division, and complete loss of vision on the affected side.

Physical Examination.—Patient is well-developed, robust and well-nourished. Skin is normal; no cyanosis, jaundice, edema or eruptions. Arteries are not sclerosed. There is a sense of numbness over the left temporal region, extending down below the molar eminence and even to the left side of the nose. Patient can close his eyes, wrinkle his forehead, contract his masseters, show his teeth, pucker the corners of his mouth, equally and well on both sides.

Heart: Outline normal; sounds regular and of good muscular quality; suggestion of systolic murmer at the apex. Abdomen negative.

Extremities (lower): Good muscular force; no incoordination; knee-jerks prompt; no ankle clonus; no Babinski. Gait seems somewhat uncertain. Station negative. Extremities (upper): Normal; no incoordination.

Blood: Red blood-cells, 5,500,000; white blood-cells, 13,200; hemoglobin, 87; polymorphonuclears, 65; lymphocytes, 31; large mononuclear, 1; transitionals, 2; eosinophil, 1.

Urine: Amber; light flocculent sediment specific gravity 1.025; slight acid; no albumin or sugar; no casts, cylindroids, or red corpuscles; considerable mucus; a few leukocytes; squamous epithelium; calcium oxalate crystals.

Examination of the ears by Dr. Randall: There is some nerve deafness in the left ear, namely, for low tones, as he claims to hear the 2,000 d. v. s. fork and many tones (notes) of the Galton whistle. His left naris was stuffy, a possible source of his tinnitus, but its freeing gave no relief, nor did the Politzer inflation or massage. His left drumhead is scarred, but with little trouble remaining. There is no objective bruit as of aneurysm. His injury would seem to have been on this side and to have pinched the fifth and eighth nerves.

Examination of eyes by Dr. de Schweinitz: Right eye: normal; vision 6/5. Left eye: optic nerve atrophy; probably secondary to lesion at base. Pupils react. No muscle palsies. Ocular symptoms suggests basal lesion anterior to chiasm.

Blood-Pressure: Systolic 125; diastolic 80.

Diagnosis.—Unquestionably, there must have been a fracture of the base, beginning in the petrous bone and extending forward to the optic foramen; for in no other way could one account for the trauma to the optic, trigeminal, and auditory nerves. The associated injury of these three nerves is a very unusual one, and in my experience quite unique. It is not common to find a simultaneous injury to the nerves of the posterior fossa and one of the anterior fossa, and while this is worthy of comment in passing, it is still more uncommon, at least in my experience, to see a persistent lesion of the trigeminal nerve following cranial trauma, and, furthermore, to see the facial nerve escape altogether when the injury has been extensive enough to involve both the trigeminal and auditory.

It was for the relief of the tinnitus, which had become quite unbearable and seriously impaired the patient's health, that I was consulted, and inasmuch as there was every reason to believe that the tinnitus was not central in origin, and as the hearing was already impaired on the affected side, I had no hesitancy in recommending to the patient section of the auditory trunk. To this he readily consented, and I proceeded somewhat as follows.

Operation.—A flap was reflected so as to uncover the occipital bone to the left of the median line and below the superior curved line. That portion of the occipital bone, between the emissary sinus and the median line, and from the level of the lateral sinus downward for 3 cm., was removed with rongeur forceps. On the reflection of a dural flap, a brain retractor was introduced beneath the cerebellar hemisphere, which was gently elevated to allow of the escape of cerebrospinal fluid from the cisterna magna. At the same time I

2. Jour. Nerv. and Ment. Dis., February, 1907, and June, 1909.

instructed my assistant to puncture the dural sac in the lumbar region, but the withdrawal of cerebrospinal fluid in this way did not allow any greater displacement of the hemisphere, which was considered possible. The latter was gently displaced backward and gradually the petrous bone was uncovered as far as the internal auditory meatus. (See Fig. 1.) With good artificial illumination, the auditory and facial nerves were identified. The auditory was readily separated from the facial nerve and divided with alligator scissors. An e[illegible]trode applied to the facial nerve gave an immediate respo[illegible]. The dural wound was closed with interrupted silk sutures and the musculocutaneous flap restored. At no time during the operation was hemorrhage a troublesome feature; the blood-pressure varied from 110 to 140 Hg. and the pulse from 80 to 105. The patient's condition at the conclusion of the operation was entirely satisfactory, and his convalescence, though prolonged by an incidental attack of appendicitis and tonsillitis, was otherwise uneventful. (See Fig. 2.) The effects of the operation were more than gratifying to the patient, as the intense roaring sound had disappeared.

CAUTION TO OPERATORS

While I have already indicated quite specifically the conditions under which this operation may be performed

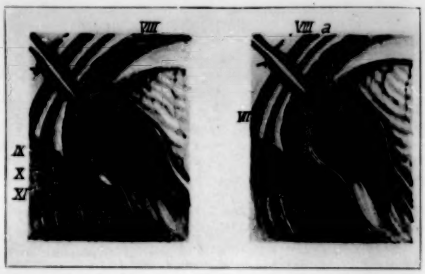


Fig. 1.—Left figure: Illustration showing the retraction of the cerebellar hemisphere and the relation of the auditory nerve at the internal auditory meatus to the glossopharyngeal, pneumogastric, and spinal accessory nerves. Note that in this illustration the facial nerve is entirely concealed by the auditory nerve. Right figure: Here the facial nerve (vii) has been separated from the auditory nerve (viii) by a blunt hook.

with propriety, one restriction should be insisted on, namely, that the operation be entrusted only to the hands of those who are familiar with problems of the surgery of the posterior fossa. I say this with some hesitation and with due regard for the accomplishments of surgeons skilled in other fields, but I am convinced that to be able to meet the difficulties peculiar to procedures in the posterior fossa effectively and with due regard for the patient's safety, one must have made them an object of special study and have the confidence that comes only with experience. The administration of the anesthetic by intratracheal insufflation offers many advantages. The appliances for securing the proper posture of the patient are absolutely essential; the control of hemorrhage requires one to be especially resourceful; and the subsequent manipulation of the cerebellum demands nicety of judgment. The displacement of the cerebellum must be effected without undue trauma on the adjacent pons and medulla and should not be attempted without taking advantage of the additional space to be derived by evacuation of the large basal cisternae. The separation of the auditory from the facial nerve requires patience, the use of artificial illumination is almost indispensable, and the assistance to be derived from electrical stimulation should always be availed of before the auditory nerve is divided. Although the auditory nerve is larger than the facial, no chances should be taken until the facial nerve is identified by electrical stimulation. I approach these operations not without due regard for the intricacies of the problems involved, and yet if one is thoroughly familiar with them and knows how best to deal with them, no apprehension need be entertained as to the immediate outcome.

It is not my purpose to advocate this operation without the fullest realization of its limitations, and yet I feel quite confident that it is based on sound logical reasoning, and has been attended with a measure of

Fig. 2.—Photograph of patient taken two weeks after operation showing scar well concealed within the hair line.

relief which fully justifies its performance in properly selected cases.

1724 Spruce Street.

Morbidity in Alaska.—As a general rule there is little sickness in Alaska, for the climate is conducive to healthfulness, and, with the exception of diseases like pneumonia, rheumatism and tonsillitis, the white population is unusually healthy. The natives, however, are afflicted with many ailments, which are chiefly the result of their unhygienic living and the lack of facilities for treatment and isolation of the infected. Tuberculosis, eye affections and venereal diseases are the most important. Other conditions and diseases found among the natives were heart disease, stomach troubles, adenoids, hysteria, locomotor ataxia, pleurisy, scabies, impetigo, scrofula, rachitis, epilepsy, one case of feeble-mindedness and two of deaf-mutism. Erysipelas, small-pox, measles, infantile paralysis, chicken-pox, and influenza have occurred in epidemics. The case mortality among the natives in these epidemics has been exceedingly high. Natives living in villages adjacent to white settlements are more diseased than those living in isolated districts.—E. Krulish, *Pub. Health Rep.*

MYCOSIS FUNGOIDES FOLLOWING PSORIASIS *

HOWARD FOX, M.D.
NEW YORK

There are few diseases primarily affecting the skin which can appear in so many different forms as mycosis fungoides, and which, in the early stages may prove so difficult to recognize. It is also true that there are few diseases of the skin which have been studied so thoroughly from a clinical and pathologic standpoint. In spite of this we are still ignorant as to the cause and real nature of this affection. On account of some interesting features the following case seems worthy of being placed on record.

History.—September, 1912: The patient, G. L. S., was a man aged 47, born in the United States, an insurance agent. He was married and was the father of two apparently healthy children. An aunt was said to have suffered from psoriasis during her entire life. The patient had suffered from the usual diseases of childhood.

At the age of 20, according to his statement, the patient first noticed an eruption on the elbows consisting of "thick silvery white scales." A few years later the scalp, eyebrows and legs became affected. The eruption persisted, with partial intermissions, every summer and showed no particular change until April, 1902, when it became generalized. A positive diagnosis of psoriasis of the nummular type was made at that time by Dr. George T. Jackson, who was seen in consultation. The same diagnosis was made by his family physician, Dr. J. Gardner Smith, who had previously treated him. Following the local application of ichthyol and chrysarobin the eruption disappeared completely. It again became rather severe two years later.

In 1905, the following year, an eruption of a different character appeared, for which the patient consulted Dr. Jerome Kingsbury. The latter made a positive diagnosis of syphilis, the patient presenting a generalized ulcerating, pustular eruption, alopecia and angina. He was treated by inunctions and internal administrations of mercury for four months, the eruption nearly disappearing during this time. Recent Wassermann reactions, however, made by me and also at the German Hospital, proved to be negative.

In January, 1906, the patient was seen by my father, Dr. George Henry Fox, who again found a typical eruption of psoriasis. His notes contain the statement that the patient "now has silvery rounded patches of various sizes on scalp, trunk and extremities." Under tonic treatment and the local use of chrysarobin the psoriasis again disappeared, and the patient remained apparently well for a year when, according to his statement, the psoriatic patches again appeared. They remained until two years ago, when the character of the eruption began to change. According to the patient's intelligent description the "scaly lesions seemed to be replaced by smooth pigmented masses which gradually became elevated."

During the past two years, in which time the new type of eruption has been present, the patient has become gradually weaker and has lost flesh and strength. He states that the present eruption has never caused any subjective symptoms whatever.

Examination and Course.—When examined by me in August, 1912, the patient was rather delicate in appearance and weighed about 140 pounds. He then presented an eruption consisting of a large number of grouped macules and more or less elevated nodules of a dull reddish color. The eruption was profuse and involved principally the neck, arms, trunk and thighs. The majority of the lesions were not elevated and showed little or no infiltration. A few of them, especially a patch on the side of the neck, were in the beginning stage of tumor formation. There was no scaling, ulceration or evidence of scratching. A number of the more elevated lesions had become flattened under Roentgen-ray treatment.

In the fall of 1912 the patient was shown before the Manhattan Dermatological Society, where the diagnosis of mycosis fungoides was accepted without question.

An examination of the urine showed nothing abnormal. A blood examination showed 4,896,000 red cells, 7,000 leukocytes and 85 per cent. of hemoglobin. A differential count gave 74 per cent. of polynuclear leukocytes, 13 per cent. of small leukocytes, 5 per cent. of large lymphocytes and 8 per cent. eosinophils. A von Pirquet test was negative. Examination of the chest showed an infiltration at the apex of the right lung. There was some cough but no expectoration. Nothing abnormal could be detected by palpation of the abdomen. The heart was apparently normal.

In November, 1912, while at the German Hospital, the patient developed a lobar pneumonia, from which he made a good recovery. He was later discharged from the hospital showing improvement in the eruption as a result of Roentgen-ray treatment. He was then lost to further observation.

Histologic Examination.—This was kindly made by Dr. Walter J. Heimann and showed the following:

Section of the skin from thigh. Eosinhemotoxylin stain. Low-power, Zeiss objective A, ocular 4: The section contains both normal and abnormal tissue, the latter lying between two areas of the former. In the diseased portion, changes exist in both the epidermis and the cutis. The epidermis is stretched into a prevailingly straight, but occasionally wavy line, corresponding to the shape of the altered papillary body, the outlines of which have been lost, for the lesion represents an elevated papule. The changes in the cutis consist of an infiltration corresponding in breadth to the changed epidermis. In depth it includes the papillary and subpapillary layers but not the deeper stratum of the corium. It is sharply limited below.

"High power. Dry system, apochromatic. Objective 3 mm. Ocular 8: The epidermis is thin, consisting of a columnar, an atrophied malpighian, a thin granular layer and an excessively hyperkeratotic stratum corneum. The malpighian cells, arranged in layers from three to five deep, take the stain with varying intensity. The nucleus at times is shriveled and surrounded by a clear zone which, in turn, is sharply demarcated by a distinct cell-membrane. Such cells are spherical and lie singly or in groups (Unna's ballooning degeneration). Epithelial bridges are not to be found.

The infiltration consists of four elements, vascular, cellular, collagenous and, finally, a peculiar reticulum. The vessels are increased in number, but are small. They are engorged, and their endothelial cells are slightly swollen and have blurred nuclei. The walls of the arterioles are not thickened; the lymphatics are somewhat dilated. A distinct group of minute vessels lies immediately under the epidermis. About the coil-glands and hair follicles where there is no infiltration, the vessels are a little dilated, and there is a slight perivascular inflammation. The cells found in the infiltration are mainly of the round type, uniform in shape, size and staining intensity, with nuclei filling out the entire body. A few epithelioid cells and fibroblasts are present, but have no definite arrangement with reference to the round cells. Neither plasma, mast eosinophil nor giant cells could be found. The connective tissue, distributed throughout the infiltration, is fairly well stained, although in places it is clearly undergoing degeneration. The reticulated appearance uniformly present consists of round or fusiform spaces corresponding either to degenerated connective-tissue elements or to degenerated round cells in which the nucleus is absent, or but faintly stained. The entire infiltration thus has the appearance of a mesh-work containing normal and degenerating cells, vessels and connective tissue.

Untortunately as only the eosin-hematoxylin section was preserved the elastic tissue and finer connective tissue changes

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

could not be studied. All of the characteristics enumerated above, however, speak for the histologic picture of granuloma fungoides."

To summarize, my patient had suffered for the greater part of twenty-five years from an eruption that was unquestionably psoriatic from a clinical point of view. This continued until two years ago when the eruption changed in character and finally proved to be without doubt a mycosis fungoides.

The eruption in this case failed to show any of the premycotic manifestations (erythematous stage of Bazin, eczematous stage of Kaposi) unless it might possibly be thought that the psoriasis was the initial manifestation of the disease. It may simply be said that the psoriasis was absolutely typical and that a microscopic examination would have seemed entirely superfluous. The manifestations of mycosis fungoides in my case properly belong in the so-called second stage of the disease (lichenoid of Bazin, flat infiltration of Köbner) and in the third stage of tumor formation.

Fig. 1.—Mycosis fungoides in so-called lichenoid stage, or stage of flat infiltration.

A study of the literature of mycosis fungoides shows that the earliest manifestations may vary greatly in appearance. While the great majority of the earliest cutaneous lesions are of the eczematous or erythematourticarial type, some of them are certainly psoriasiform in appearance even if not actually psoriatic. Doubtless some of the premycotic eruptions that have been regarded as psoriasis would not have been so considered by expert dermatologists.

In collecting a series of 166 case reports of mycosis fungoides (98 men, 68 women, with an average age of 48), I have found the following references in which premycotic eruptions were stated to have simulated more or less closely the lesions of psoriasis. Thus, Stowers[1] remarks that his case had been mistaken at different times for eczema, leprosy, lupus and psoriasis. Allgeyer[2] writes that in his case the desquamation was so abundant at one time that it might have been compared to a case of aggravated psoriasis. Whitfield[3] writes concerning his patient that it "at first glance somewhat resembled psoriasis, as it is a red rash, throwing off thick and rather silvery scales and arranged in the gyrate manner, so common in this disease. On closer inspection it is found, however, that these circles and curves are entirely made up of small nodules." Wolters[4] says concerning one of his cases: "The clinical picture which the patient presented at the first examination resembled most closely a psoriasis. Only after the scales had been removed by baths, zinc oxid and green soap, did I succeed in recognizing the real condition." Werther[5] remarks that one of his cases presented a patch that had previously been considered to be psoriasis by another physician, and Stopford Taylor[6] made a provisional diagnosis in his case, of pityriasis rubra following a psoriasis or seborrheic eczema. Biddle[7] remarks that a patient of his "had been treated for two years by one physician and another for psoriasis" but adds, "The tumor stage had already set in so that I knew the disease could not be psoriasis." He then describes the points in which the eruption differed from psoriasis, a distinction which had probably not been appreciated by the other physicians who had treated the patient. In a case of Völckers[8] the diagnosis at first lay between syphilis and psoriasis. There was no history of syphilis and there were no objective signs of this disease. Chrysarobin was given but without any noteworthy improvement. When seen three years later the type of eruption had changed and the true diagnosis was apparent. Mannino[9] reports a case of mycosis fungoides in which, during the course of the disease (tumor stage), a diffuse psoriasis appeared from which the patient was relieved after a long continued treatment with Fowler's solution. Von Zumbusch[10] reports a case in which an eruption

Fig. 2.—Mycosis fungoides showing infiltration of papillary and subpapillary layers of the corium.

1. Stowers, J. H.: Mycosis Fungoides, Brit. Jour. Dermat., 1903, xv, 47.
2. Allgeyer, V.: Micosi fungoide e leucocitosi linfatica, Arch. p. le sc. med., 1901, xxv, 225.
3. Whitfield, A.: A Case of Mycosis Fungoides, Brit. Jour. Dermat., 1898, x, 153.
4. Wolters, M.: Mycosis Fungoides, Stuttgart, 1899.
5. Werther: Zwei Fälle von Mykosis Fungoides, München. med. Wchnschr., 1906, liii, 1546.
6. Taylor, G. Stopford: A Case of Mycosis Fungoides, Brit. Med. Jour., 1894, ii, 693.
7. Biddle, A. P.: A Study of Mycosis Fungoides, Physician and Surg., 1900, xxii, 7.
8. Völckers, A.: Ueber Granuloma Fungoides (Mykosis Fungoides) der Haut, Inaug. Dissert., München, 1893.
9. Mannino, L.: Sulla Micosi Fungoide di Alibert, Gior. Ital. d. mal. ven., 1882, xvii, 348.
10. Von Zumbusch, L. R.: Beitrag zur Pathologie und Therapie der Mykosis Fungoides, Arch. f. Dermat. u. Syph. 1905, lxxviii, 21.

which had been thought to be psoriasis had appeared eight years previously and had disappeared after chrysarobin therapy. A second attack had also occurred two years before. Later the eruption was mistaken for "lichen ruber" and finally the proper diagnosis of mycosis fungoides was made. A case is reported by Roman[11] in which an eruption had appeared fifteen years previously which was "diagnosed as psoriasis" and which cleared up under local treatment. Five years later a similar eruption appeared "which was again pronounced psoriasis and again treated as such until it almost completely disappeared." For the past six years the patient had had an eruption, the nature of which was finally shown by the presence of infiltrations and tumor formations.

In none of the cases mentioned above was it stated that the premycotic eruption had been positively diagnosticated as psoriasis by an experienced dermatologist. In only two cases besides my own that I have been able to find has such a positive diagnosis been made, and in one of these the psoriasis was of rather recent origin. The case recorded by De Amicis[12] was that of a man of 65 who had suffered from psoriasis for two years. The eruption had consisted of patches which finally spread over his chest, upper extremities and part of one thigh. They were covered with silvery white scales. The year before he had visited the city dispensary "where his disease was pronounced to be psoriasis" and where he was treated by chrysophanic acid for five months without any benefit. The patches persisted "with a surprising tenacity" and later became "infiltrated and slightly exudating so that they were no longer seen covered with a mass of dry, lucid and silvery scales, but rather with crusts." The itching became more intolerable and the condition failed to yield to hydrotherapy or the administration of arsenic. Finally the diagnosis of mycosis fungoides was established by the appearance of tumors and ulceration.

The case described by Pick[13] was that of a man of 53 who had attended his clinic six years previously to obtain relief from psoriasis that was "very extensive and of very long duration" (the exact duration not being stated). Under local treatment most of the recent patches disappeared, while there was only moderate improvement in the "marked pachydermatous infiltrations." On these thickened patches the tumors of mycosis fungoides later developed.

A feature of interest in my case was the entire lack of itching during the period (two years) in which the lesions of mycosis fungoides were present. In the list of cases quoted, itching was mentioned as being severe or intolerable in seventy-nine cases and moderate in forty-one while in eleven cases there was no itching at all. In thirty-seven cases no reference was made to this symptom. It may be said, however, that many of the cases in which no mention was made of pruritus were those in which the eruption assumed the tumor stage from the outset, or in which the case report was very meagre.

Another feature of interest in this case was the general pustular eruption which occurred eight years ago and which was considered to be syphilis by an experienced colleague. In favor of this diagnosis it may be said that, when the patient was seen three or four years later by his family physician, there was evidence of periostitis of the tibia. Whether the pustular eruption in this case was syphilitic or not, and it appears probable that it was, it does not seem to me, judging from the reports which I have read, that syphilis can be said to play a rôle of any importance in causing mycosis fungoides. In the list of 166 cases mentioned a history of syphilis was given in only six. It must be admitted, however, that some of the reports were too short to include any reference to the previous history of the patient. It is true that in quite a number of cases with nodules and ulcerations the possibility of syphilis was seriously considered in spite of negative history and the lack of other evidence of the disease. That these lesions were not syphilitic, however, was shown by the almost invariable failure to improve under antisyphilitic treatment.

A third point of interest in my case was the alcoholic tendency of the patient who had been a heavy drinker of whisky for many years. That this alcoholism had no etiologic bearing on the disease would seem probable from the fact that this condition was absent, or at least not mentioned, in the great majority of case reports above quoted.

In conclusion, I would say that while the premycotic eruption of mycosis fungoides is at times psoriasiform in type, the disease is very rarely preceded by an unmistakable attack of psoriasis. It also seems probable that neither syphilis nor alcoholism play any important rôle in the etiology of this mysterious and fatal disease.

NOTE.—A few days after the reading of this paper the patient was again observed. In the meantime the lesions of mycosis fungoides had almost entirely disappeared and a few typical psoriatic patches had again made their appearance. A biopsy was performed on an infiltrated, non-psoriatic lesion of the back, on which Dr. Sigmund Pollitzer was kind enough to make the following report:

"A section fixed in absolute alcohol with careful avoidance of tannin (cork) stained by Unna-Pappenheim showed the characteristic pleomorphism of the granulomatous cell-infiltrate which occupied the papillary and subpapillary regions and upper part of the corium. Among the cells were scattered minute fragments of granoplasm, stained red. The capillary walls were not thickened as they would be in syphilis. The picture confirmed the diagnosis of granuloma fungoides."

616 Madison Avenue.

ABSTRACT OF DISCUSSION

DR. JOSEPH ZEISLER, Chicago: This case is of peculiar interest to me because of the fact that during the past winter I have had under my observation for many months an unquestioned case of mycosis fungoides in which the history closely parallels that related by Dr. Fox. This patient suffered from a skin eruption for ten years before I saw him. He saw various physicians in California, where he lived, and his eruption had been repeatedly pronounced either eczema or psoriasis. When I saw him, he had a generalized nodular eruption, which resembled both leprosy and syphilis, but by carefully sifting down the various findings I arrived at the diagnosis of mycosis fungoides, practically by exclusion. The further evolution of the case showed the correctness of that diagnosis. The Wassermann was negative, and injections of salvarsan, which he insisted on, did him no good. He improved, however, under the use of the Roentgen rays.

DR. C. A. BOREEN, Minneapolis: I saw in Vienna a case originally shown as one of psoriasis; but on the following day the diagnosis was changed to mycosis fungoides, and a few weeks later the typical ulcerative lesion of that disease developed.

11. Roman, B.: Two Cases of Mycosis Fungoides, Jour. Cutan. Dis., 1910, xxviii, 506.

12. De Amicis, T.: Four Recent Cases of Mycosis Fungoides of Alibert with an Examination as Regards the Existence of Parasites, Tr. Ninth Internat. Med. Cong., 1887, 275.

13. Pick: Mitteilung eines Falles von Mykosis Fungoides, mit Krankendemonstration, Verhandl. der deutsch. dermat. Gesellsch., 1889, p. 284.

V. 191

DR. O. H. FOERSTER, Milwaukee: I recall the case of a man who for twenty-five years had been affected with a skin eruption which had been variously diagnosed by experienced men as erythrodermia, pityriasique en placque disseminé and other allied affections. Then suddenly, within the course of a week, it took on the appearance of a mycosis fungoides and eventually ended fatally.

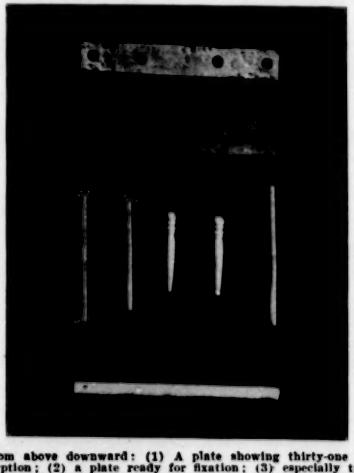
DR. FRANK E. SIMPSON, Chicago: I should like to mention one point of apparent connection between mycosis fungoides and leukemia. We had a fatal case of what had been diagnosed as mycosis fungoides clinically and the necropsy showed it to be a case of leukemia.

DR. H. H. HAZEN, Washington, D. C.: In a rather extensive study of mycosis fungoides which Dr. Strobel and I made three years ago, the investigations led us to believe that this disease is a leukemic lymphomatosis, and that it may become leukemic, as exemplified in the case recently reported by Pardee and Zeit. Necropsy reports show that the visceral lesions are mainly confined to the lymphatic system, and changes in the bone marrow have been reported.

AN ABSORBABLE PLATE FOR USE IN THE OPEN TREATMENT OF FRACTURES *

ALEXIUS McGLANNAN, M.D.
BALTIMORE

The fixation apparatus I have to present consists of plates and pegs made from animal bone. This apparatus is sterilized by boiling and then applied directly on the bone in a manner similar to that used with the non-absorbable plate. Holes are drilled through the plate and into the fragments after reduction, and the pegs are then driven in and sawed off a short distance from the plate. The length of the peg left varies with the depth of the wound. Two pegs are put into each fragment.



From above downward: (1) A plate showing thirty-one days' absorption; (2) a plate ready for fixation; (3) especially turned pegs beveled at one end; and two cribbage pegs, used because they may be purchased at little cost; (4) the intermedullary splint.

I have also an intermedullary splint, turned from animal bone. This splint has a hole drilled at each end through which is threaded a catgut suture. In using this, one fragment of the fractured bone is dislocated out of the wound far enough to make the medullary canal accessible. A hole is drilled through the cortex about 1 inch above the break and a double strand of wire passed through this hole and out through the end of the canal. The catgut is threaded through this wire and with it drawn out of the cortical opening. The entire splint is now forced up into the canal and the fracture reduced. While the fracture is held in a clamp, traction is made on the catgut, drawing the splint into the medullary canal of the other fragment much as a bolt is driven into its keeper. The catgut is now threaded on a needle and sewed into an adjacent muscle or fascia.

I have had only one opportunity to use the absorbable plate and none to use the intermedullary splint. The plate was used in the case of an oblique fracture of the tibia occurring in a boy aged 10. Closed reduction failed to hold the fragments in good apposition. The plate was applied with four pegs. Convalescence was uneventful and at the first dressing on the twenty-first day, pegs and plate were felt *in situ*. At the next dressing, ten days later, the pegs had been absorbed and the plate was felt loose in the subcutaneous tissue. It was easily removed through a small opening and the erosion shows the extent of the absorption that had occurred.

Fixation of the tibia is a severe test for any form of plate. This case shows, I think, that, while my plate is needlessly thick for fixation, absorption will occur, and that, in a deeply placed bone such as the femur, complete absorption would take place in the time required for immobilization of a fracture, and that the plate would resist absorption sufficiently long to give the necessary fixation.

114 West Franklin Street.

* Presented at the annual meeting of the Maryland State Medical Society (Medical and Chirurgical Faculty), and at the Clinic Day of Orthopedic Association, Baltimore, May 5, 1913.

A CASE OF LYMPHANGIOMA CIRCUMSCRIPTUM

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The following case of lymphangioma circumscriptum, a comparatively rare dermatosis, occurred in the service of Dr. Jerome Kingsbury at the New York Skin and Cancer Hospital, and was presented by him at one of the recent meetings of the New York Dermatologic Society.

The patient, M. D., schoolgirl, aged 13, has never had any acute illness, other than an attack of rubeola when 9 months old. Her family history is negative; her father, mother, three sisters and three brothers are perfectly healthy, and entirely free from angiomatous, or other dermatologic lesions. The patient is in good health, but occasionally suffers from indigestion. The disease began when she was 3 years old, first as a reddish inflamed patch, on which, in a very short time, vesicles appeared. The lesion slowly increased in size until four or five years ago; since then it has remained stationary. There are no subjective sensations, but occasionally during an attack of indigestion she complains of a burning and itching sensation, which subsides at once with the relief of the gastric condition. The patch is now about 4 by 5 inches in diameter, of an irregular or ovalish contour, and consists of an aggregation of pearly vesicles, of a glimmering translucent aspect. In a number of the older lesions the translucency is lost, and a slight verrucous appearance assumed. Because of the rupture of minute capillaries, and the admixture of blood with the lymph contents of the vesicles, a number of the lesions are of a deep red, purplish or blackish color. The

vesicles are firm, thick-walled and difficult to rupture; this is easily understood, because the disease is deep-seated, occurring in the corium, the vesicular covering consisting of the entire epidermic layer; one or two nevoid nodules are

Lesion in lymphangioma circumscriptum.

scattered through the mass of vesicles. Some areas of pigmentation can be observed.

The accompanying illustration shows the lesion very clearly.

20 East Forty-First Street.

PRIMARY SARCOMA OF THE LOWER LIP*

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DENVER

Considering the frequency of sarcoma about other parts of the face and the various structures of the mouth and jaws, it is rather remarkable that this form of malignancy should so rarely occur primarily on the lower lip.

There seems to be no reason why sarcoma should not grow here as well as in any other such structure, and it may of course secondarily involve the lip after arising in neighboring parts; yet with the single exception of Duplay and Reclus' "Surgery" of the edition of 1898 text-books make no mention of primary sarcoma of the lower lip, and a search of the literature reveals reports of very few cases.

Coley[1] reports a case of round-cell sarcoma of the lower lip in a girl aged 5 which recurred locally twice after operation and was then treated with mixed toxins with apparently complete cure.

Maunsell[2] reports a case of sarcoma of the lower lip in a woman aged 34 of five months' duration successfully removed. The clinical description of this case and the microscopic findings would suggest, however, rather a granuloma pyogenicum than a sarcoma, a mistake which might readily be made by one not familiar with that condition.

Langston[3] reports a case of large round-cell sarcoma of the lower lip in a middle-aged woman with certain congenital defects about the mouth which seem to indicate that the case was one of extensive lymphangioma which later became in part sarcomatous, a not infrequent occurrence.

Dr. William H. Welch, who confirmed the diagnosis of the case herein reported, says regarding it "Hemangiomas, and less frequently lymphangiomas, with sometimes sarcomatous structure, are well-recognized neoplasms of the lower lip; but pure round-cell sarcoma of the type here represented and without lymphangiectases is in my opinion very rare."

While no considerable importance is to be attached to this condition, I believe that its rarity should give to it sufficient interest to justify the report of the following additional case, for the opportunity of doing which I am

Fig. 1.—Relation of growth to structures of lip × 2.

Fig. 2.—Border of growth, showing infiltration of muscle. Zeiss obj. aa, oc. 3.

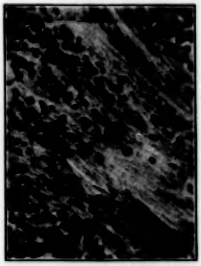

Fig. 3.—Border of growth, showing infiltration of muscle fascia. Zeiss obj. DD, oc. 1.

Fig. 4.—Sarcomatous infiltration of muscle. Zeiss obj. DD, oc. 1.

indebted to Dr. J. R. Hopkins of this city, who performed the operations and kindly turned over to me the specimens.

* Read in the Section on Dermatology of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Coley, W. B.: Recurrent Round-Cell Sarcoma of the Lip, Post-Graduate, May, 1897.

2. Maunsell, R. C. B.: Primary Sarcoma of the Lip, Tr. Roy. Acad. Med., Ireland, 1900.

3. Langston, O.: Primary Sarcoma of the Lip, Indian Med. Gaz., July, 1909.

Mr. R., aged 65, came under observation in May, 1912, for an opinion as to the character of a lesion of the lower lip which was first noticed about six months previously as a small lump on the vermilion border which soon became irritated and broke down, probably from mechanical insult. Examination disclosed a flat ulceration occupying the middle third of the vermilion border, in the center of which was a projecting mass about the size of a large pea. The edges of the ulcer were neither elevated nor indurated, and showed practically a normal epithelial covering without thickening; on palpation the growth was felt to lie deeply within the body of the lip, being as apparent on the mucous as on the skin surface with definite protrusion on each surface. A group of nodules was felt in the submental region.

Although the superficial evidences of epithelioma were absent, the age of the patient, the location of the lesion and the presence of enlarged lymph-nodes in the submental region led to a diagnosis of epithelioma, and a radical operation was urged. Microscopic examination revealed not the expected epithelioma, however, but a small round-cell sarcoma. Neither the skin nor the mucosa was involved except as a result of ulceration. The projecting mass was composed only of blood and detritus. The growth occupied the body of the lip, infiltrating the muscular and fibrous structures as shown in Figures 1 to 4.

About six months after operation a nodule appeared at the anterior border of the sternomastoid muscle on the left side and was promptly removed, but unfortunately was lost without examination. Up to the present there has been no other recurrence.

On clinical evidence alone it would be extremely difficult if not impossible to make a diagnosis in such a case. A number of widely differing pathologic conditions might present such a picture, and accuracy of diagnosis in this location is of much importance, as a mistake may lead to an unnecessary mutilating operation or, on the other hand, to wholly inadequate treatment.

Darier[4] has emphasized this point in reporting a case of lymphosarcoma of the lower lip in which the clinical appearances all indicated epithelioma. Because of the frequency of epithelioma in this situation its presence will usually be assumed in cases presenting the aspects of malignancy unless appeal be made to the microscope, and since the rapid growth and tendency to wide-spread metastasis in sarcoma render early diagnosis even more important than in carcinoma, this appeal should be prompt, a biopsy being made in all such cases when the clinical manifestations are not so clear as to be unmistakable.

The involvement of the anatomically related lymph-nodes is generally regarded as definitely indicating carcinomatous disease; but Adami[5] shows that metastatic deposits in sarcoma also "may occur along the lymphatics so that malignant enlargement of superficial and other lymph-glands is not absolutely diagnostic of cancer. Borst ascribes this liability to lymphatic extension, especially to small round-cell sarcomas."

Malignant growths of the lower lip ordinarily possess such features as to place them in the domain of general surgery rather than of dermatology, yet dermatologists are keenly interested in all disease processes which involve the superficial tissues and are frequently obliged to pass judgment on those affecting the lips, among which primary sarcoma, even though it be rare, should be given consideration as a possibility.

432 Metropolitan Building.

4. Darier, J.: Lymphosarcoma, Ann. de dermat. et de syph., 1911, Series 5, ii, 220.
5. Adami: Principles of Pathology, i, 701.

THE CONCEPTION OF HOMOSEXUALITY*

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Of the abnormal sexual manifestations that one encounters none, perhaps, is so enigmatical and to the average person so abhorrent as homosexuality. I have discussed this subject with many broad-minded, intelligent professional men and laymen and have been surprised to hear how utterly disgusted they become at the very mention of the name and how little they understand the whole problem. Yet I must confess that only a few years ago I entertained similar feelings and opinions regarding this subject. I can well recall my first scientific encounter with the problem, ten years ago, when I met a homosexual who was a patient in the Central Islip State Hospital. Since then I have devoted a great deal of time to the study of this complicated phenomenon, and it is therefore no wonder that my ideas have undergone a marked change. *Tout comprendre c'est tout pardonner,* I have met and studied a large number of homosexuals and have been convinced that a great injustice is done to a large class of human beings, most of whom are far from being the degenerates they are commonly believed to be.

In his "Three Contributions to the Sexual Theory," Freud introduces two terms which are very useful in discussing sexual aberrations. He calls the person from whom the sexual attraction emanates the sexual object and the action toward which the impulse strives the sexual aim. Bearing in mind these terms, we may define homosexuality or uranism as that form of sexual aberration in which the sexual object is a person of one's own sex. That is, the sexual object of the homosexual man is not a woman but a man, and the sexual object of a homosexual woman is not a man but a woman. It is for that reason that such individuals are also referred to as contrary sexuals or inverts.

Most of the investigators agree that of the sexual aberration homosexuality is by far the most wide-spread. It is very difficult, however, to give a correct estimate of the number of inverts. Many attempts have been made, notably by Magnus Hirschfeld,[1] who has had more experience with homosexuality than any other person. Hirschfeld estimates the number of male inverts of the population at about 1.5 per cent. Dr. v. Romer estimates that the city of Amsterdam contains about 1.9 per cent. inverts. Following the direction of Magnus Hirschfeld I attempted to find out the proportion of inverts in Greater New York. I invoked the aid of six cultured inverts who were strangers to one another, so that they moved in entirely different circles. They were very anxious to assist me in this work, but after about eight months' observation I found that the results differed to such an extent that it was impossible to compute any definite estimate. All that I can say is that there are many thousands of homosexuals in New York City among all classes of society. Homosexuality is not a product of big cities. When we read the works of I. Bloch, M. Hirschfeld, Moll, Havelock Ellis, and others, we are soon convinced that homosexuality is ubiquitous. One finds it among primitive and enlightened races during all epochs of history

*Read in the Section on Nervous and Mental Diseases of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

1. Hirschfeld, Magnus: Das Ergebnis der statistischen Untersuchungen über den Prozentsatz der Homosexuellen, Jahrb. f. sexuelle Zwischenstufen, 1904, vi, 109.

Nor is homosexuality confined to defectives, as is commonly supposed. Investigators agree that homosexuality is no sign of mental or physical degeneration. Thus Ivan Bloch† says: "I no longer entertain any doubt that homosexuality is compatible with perfect mental and physical health." This same author quotes Magnus Hirschfeld as saying that homosexuality may occur in persons just as healthy as normal heterosexual persons. Similar ideas are expressed by Näcke and others. My own findings concur with these views. Most of the inverts I know belong to our highest types both mentally and physically and show absolutely no hereditary taints. Without entering into a detailed discussion of this question I will say that I am convinced that homosexuality as such is entirely independent of any defective heredity or other degenerative trends.

Inverts have been variously classified by different investigators of the subject, notably by Kiernan, Lydston, Krafft-Ebing, Hirschfeld, Bloch and others, but for our purpose it will suffice to mention that there are three classes:

1. Absolute inverts whose sexual object must always be of the same sex. Most of them entertain a *horror feminae* or are impotent when it comes to the performance of the normal heterosexual act. I saw a number of patients, who were ignorant of their inversion, who first consulted a physician for psychosexual impotence.

2. Amphigenous inverts (psychosexual hermaphrodites) in whom the inversion lacks the character of exclusiveness, and hence their sexual object may belong to either sex.

3. Occasional inverts who resort to homosexuality under certain external conditions, especially in case the normal sexual object is inaccessible. Such individuals are able to obtain sexual gratification from a person of the same sex.[2]

It is interesting to note how the inverts themselves view their inversion. Some take it as a matter of course and demand the same rights as the normal. They are perfectly contented with their lot, and seldom consult a physician. "I would not for the world have anybody interfere with my personality; I just wish to consult you about a *modus vivendi* for myself," writes a young inverted clergyman on asking me for an appointment. Some, however, struggle against it and consider it a morbid manifestation. It is only the latter who can be helped by treatment.

There may be some congenital inverts, but of the forty-nine cases that I have analyzed I always discovered one or more early affective sexual impressions which favored the development of homosexuality. In others a fixation of the inversion took place earlier or later in life through external favoring and inhibitory influences, such as exclusive relations with the same sex in boarding-schools, in the army, in the navy, in prison, etc. It is no simple matter to find these early unconscious impressions. It usually takes weeks and months of psychanalysis before they can be discovered. It is therefore comprehensible why such cases have been called congenital. It is only of late that some of these cases have been studied psychanalytically by Freud, Sadger and a few others.[3] Another point against the assumption of congenitality is the fact that hypnotism and other psychotherapeutic means may cure the inversion, which is hardly possible if it were congenital.

† Bloch, Ivan: Das Sexualleben unserer Zeit, Marcus, Berlin, 1909, p. 543.

2. Freud: Three Contributions to Sexual Theory, p. 2.

3. Similar views are expressed by Coriat in his paper on Homosexuality, New York Med. Jour., March, 1913.

Indeed, when we examine the literature on this particular point, we find that the authors are far from being in accord on the question of whether inversions are congenital or acquired. At first it was supposed that homosexuality was simply a vice acquired through excesses or through a suggestion in early life (Binet, Schrenck-Notzing). Krafft-Ebing assumed a congenital and an acquired form. Since then there has been a tendency to limit the acquired form as evidenced in the works of Moll and others. Hirschfeld assumes that homosexuality always contains a congenital element. Näcke refuses to recognize a congenital and acquired homosexuality but suggests instead the true and false inversions. He also describes that form which manifests itself late in life as tardive homosexuality and maintains that it is not acquired but based on a congenital basis. All these diversities are, in my opinion, due to the fact that none of these authors have gone deep enough with their patients.

When we examine the theories advanced concerning the nature of inversion, we are soon confronted with the theory of hermaphroditism, which was brought into prominence by Lydston, Kiernan and Chevalier. It starts with the fact of anatomic hermaphroditism and shows that a certain degree of it really belongs to the normal. This leads to the conception of the original predisposition to bisexuality which changes in the course of development to monosexuality, leaving slight remnants of the stunted sex. This conception was then transferred to the psychic spheres and the inversion was conceived as an expression of psychic hermaphroditism. But to confirm this it would be necessary to find a regular correspondence between the inversion and the psychic and somatic signs of hermaphrodism which was not realized. Although one frequently finds in inverts a diminution of the sexual impulse and a slight anatomic stunting of the organs, it is by no means a regular or preponderate occurrence, so that one is forced to conclude that there is no relation between homosexuality and somatic hermaphrodism.

Many observers lay a great deal of stress on the so-called secondary and tertiary sex characteristics which are supposed to occur in inverts. Thus Hirschfeld, who bases his experience on 1,500 inverts, asserts that he never saw a homosexual who did not differ from a perfect man. As much as I respect the opinion of Dr. Hirschfeld I must say that I cannot quite agree with him. In my little experience I have seen many homosexuals without any of the secondary sex characters. I will admit, however, that I have not examined my patients as carefully as Hirschfeld has his. On the other hand I know that some men show some of the secondary sex characters who are absolutely heterosexual.

The bisexual theory expounded by Ulrich—*anima muliebris in corpore virili inclusa*—is entirely untenable. The same may be said of Krafft-Ebing's theory that the bisexual predisposition gives to the individual male and female brain-cells somatic sexual organs which develop toward puberty under the influence of the independent sex glands. All that can be said is that, although a bisexual predisposition may also be presumed for the inversion, we do not know wherein it exists beyond the anatomic formations and that we are dealing with disturbances experienced by the sexual impulse during its development.[4]

According to the theory of psychic hermaphroditism the sexual object of inverts would be the reverse of the

4. Freud: Three Contributions to the Sexual Theory, p. 9.

normal. Thus the invert would succumb to the charms emanating from the manly qualities of body and mind; he would feel like a woman and look for the man. This conception, although true in a great many cases, does not by any means indicate the general character of the inversion. Many homosexuals retain their virility and look for feminine psychic features in their sexual object. Freud demonstrates this nicely by mentioning the fact that masculine prostitutes in offering themselves to inverts imitate to-day, as in antiquity, the dress and the attitudes of the woman. Moreover, among the Greeks, who numbered among their inverts some of the most manly men, it was surely not the masculine traits of the boy that attracted them but rather his physical resemblance to the woman as well as his feminine psychic qualities, such as shyness and demureness. When the boy grew up he ceased to be a sexual object for men and in turn became a lover of boys. All this goes to show that the sexual object in this case, as in many others, is not of the same sex, but that it unites both sex characters. It is a compromise between the impulses striving for the man and for the woman, but firmly conditioned by the masculinity of the body (the genitals). I purposely paraphrased Freud, as these points will have to be borne in mind later.

The sexual aim of inverts shows no uniformity. The popular idea of homosexual relations presupposes that inverts always practice fellatio or intercourse per anum. As a matter of fact these sexual aims are least practiced. Many homosexuals are as disgusted at the mention of these practices as normals. Some content themselves with an effusion of feelings. Ten of my analyzed cases never had any sexual relations with their sexual object. Some practiced mutual masturbation, others coitus *inter femora*.

Strange as it may seem, the diagnosis of homosexuality is not always an easy matter. In the first place it must be urged that a sporadic homosexual act does not necessarily mean homosexuality, nor does the absence of such acts signify heterosexuality. There is naturally no difficulty when one is confronted with an absolute invert who acknowledges his inversion. There are, however, a number of inverts who are really ignorant of their inversion. Eleven out of my forty-nine patients did not realize that they were homosexual, although nearly all of them had had homosexual experiences some time in their lives. They sought treatment for psychosexual impotence or for some neurosis. I have also seen patients who were treated for a long time for psychosexual impotence by prostatic massage, etc., who were all the time aware of their inversion. They kept silent because the treatment gave them pleasure or because they were ashamed or afraid to tell the doctor the true state of affairs. For many reasons the average doctor is not especially affable to a homosexual patient, and many a sensitive invert has had cause to regret his confidence in the doctor.

The diagnosis should be based on the somatic and psychic elements of the case, especially the latter. Naturally the psychanalyst finds it easier to diagnose a difficult case than one who does not enter into the deeper psychologic mechanisms. Dreams are usually an excellent guide in the diagnosis of homosexuality, but it must be remembered that they should be judged by the latent and not by the manifest content by which Näcke judges them. I have analyzed many apparently sexual dreams whose latent content showed a homosexual wish.[5] We must also remember that not all erotic dreams of homosexuals are homosexual,[6] and that some apparently homosexual dreams have nothing to do with homosexuality as an inversion.[7] Furthermore, many homosexuals who are anxious to become heterosexual often show normal dreams; the dreams simply realize their wishes. I have observed this mechanism in many homosexuals, and it is for that reason that I cannot agree with Dr. Coriat, who states that the "dreams furnish us not only the best, but the *most incontrovertible*. [the italics are mine] evidence of the result of treatment." There is a class of patients who do not show the characteristics of the invert who are nevertheless constantly afraid of becoming homosexual or fear lest some one should suspect them of homosexuality. I have seen a number of such patients who were classed as homosexuals. I also saw one of these patients in consultation with Dr. Hirschfeld, who diagnosed the case as a severe psychasthenia and saw nothing homosexual in the case. If such patients are questioned, one will find that they never were in love with any person of the same sex—an important diagnostic point—and they show besides many symptoms that one does not find in the inversions. These patients may be called unconscious homosexuals, and they often develop into paranoid states, a discussion of which cannot here be entered into.[8] I may add that the patient seen with Dr. Hirschfeld is now suffering from the paranoid form of dementia praecox.

As we are dealing with a psychic manifestation, the hope for a cure of homosexuality lies in psychotherapy. I can never comprehend why physicians invariably resort to bladder washing and rectal massage when they are consulted by homosexuals, unless it be to kill the homosexual cells in the prostate so that their place may be taken by heterosexual cells, as one physician expressed himself when one of my patients asked him how massage of the prostate would cure his inversion. It is an unfortunate fact that such ridiculous ideas are often heard in the discussion of psychosexual disturbances. Only a few months ago a patient told me that he was told by two physicians that his hope for a cure lay in castration.

When hypnosis came into vogue a great many workers in this field utilized it in the treatment of homosexuality.[9] It was soon found that it failed to come up to expectation. Some patients could not be hypnotized, others suffered relapses, and still others did not react to the suggestions. Indeed, very few sexologists place much trust in hypnotism as a cure for inversions. Of late Moll has advanced a new psychotherapeutic method which he calls the association therapy. It consists of a methodical development of the normal and a methodical suppression of the perverse associations.[10] It is too early to speak of the merits of this treatment; so far as my knowledge goes no one has used it besides Moll. In the treatment of my cases I use exclusively psychanalysis. Freud, Sadger and others, have used this method for a number of years,[11] and the results obtained are very gratifying. Besides, psychanalysis has the advan-

5. Brill: Psychanalysis; Its Theories and Practical Application, p. 55.

6. Moll: Handbuch der Sexualwissenschaften, p. 654.

7. Freud: Ueber Infantile Sexualtheorien Sammlung Kleiner Schriften zur Neurosenlehre, Zweite Folge, Deuticke, Wien.

8. Brill: Psychanalysis; Its Theories and Practical Application, chap. VI.

9. Compare the works of Krafft-Ebing and Schrenck-Notzing

10. See Moll, Handbuch der Sexualwissenschaften, p. 662.

11. Freud: Three Contributions to the Sexual Theory Eine Kindheitserrinnerung des Leonardo da Vinci. Sadger: Fragment der Psychoanalyse eines Homosexuellen, Jahrbuch f. sexuelle Zwischenstufen, Ix; Ein Fall von multipler Perversion mit hysterischen Abszenen, Jahrb. f. psychoanal. and psychopath. Forschungen, II; and Ist die Konträre Sexual Empfindung heilbar? Ztsch.. f Sexualwissensch., 1908.

tage over the other psychotherapeutic means in so far as it enters into the deeper mechanisms of the phenomena, and, although we have not yet a full explanation of the origin of inversions, it has revealed the psychic mechanism of its genesis and has essentially enriched the problem.

Those who are acquainted with the principles of psychanalysis will recall the close connection between the neuroses and the perversions. Every neurosis regularly shows some admixture of inversion, and during the analysis of a hysteria or compulsion neurosis one invariably finds some heterosexual and some homosexual roots. When we analyze a case of inversion we find that the masculine ideals of the invert regularly conceal the early infantile feminine ideals, usually the mother or foster-mother, which succumbed to repression at a very early age. Before the age of puberty the sexual feelings are usually unspecialized and the persistent desire for the man usually makes its appearance at or shortly before puberty. The lasting homosexual desire is usually brought about by the fact that the mother loses her rôle as an ideal forever, or for a long time, either through death, illness, or other estrangement. The later homosexual may then turn to his father, older brother or some other older man of his environment. Among the homosexual ideals, and besides the homosexual and heterosexual features hitherto desired, one's own person, one's own image, plays a great part; in other words, the road to homosexuality always passes over narcissism, that is, love for one's self. The stage of narcissism is characterized by the fact that the developing individual, while collecting into a unit his active auto-erotic sexual impulses in order to gain the love object, takes first himself, his own body, as the object, before going over to the object selection of a strange person. Narcissism is therefore a necessary stage of development in the transition from auto-erotism to the later love object. The love for one's own person, which only conceals the love for one's own genitals, represents a stage of development which is always present, and in a great many persons lasts a long time. The remaining road later leads to the choice of objects with similar genitals. As Sadger puts it:

> Every man usually has two primary and primitive sexual objects, and his future life depends on whether or not he finally remains fixed, and on which of the two the fixation takes place. For the man these two objects are his mother or foster-mother and his own person. To remain healthy he must rid himself of both, and not tarry too long with either of them.[12]

It is assumed that the invert could not get away from himself, that is, he was unable to free himself from the desire of requiring genitals similar to his own in the love object. He is more successful, however, in freeing himself from his mother-image which is brought about by identifying himself with her and thus taking himself as the sexual object. With the repression of the love for the mother there occurs a repression of love for all womankind. According to Sadger it follows the following trend of thought: "If the best of all women, my own mother, amounts to so little, how could any other woman stand the test?"[12] As soon as the analysis is entered on, one often finds that inverts are not at all indifferent to the charms of women, but as soon as any excitation is evoked by the woman it is at once transferred to a male object. This mechanism which gave origin to the inversion is thus repeated throughout life and their obsessive striving for the man proves to be determined by their restless flight from the woman.

It is also noteworthy that most inverts are only or favorite children. I have shown elsewhere that such children are usually overburdened with love[13] and hence remain insatiable for the rest of their lives. This accounts for the fact that when they tear themselves away from their mothers they often reject the whole sex.

These are some of the salient points brought out through the analysis of inverts which I shall illustrate by the following cases:

CASE 1.—W., aged 40, single, American, was referred to me for treatment by Dr. Frederick Peterson in December, 1910. He was an absolute invert, having attempted sexual intercourse once at the suggestion of his valet and failed. He showed some of the secondary sex characters. He had a very delicate skin, of which he was proud because it was just like his mother's, a scanty growth of hair on his face, and narrow shoulders, and broad hips. Psychically he recalled an old maid. He was very neurasthenic and crabbed, but his mood often changed to a feeling of self-sacrifice and marked consideration for others. He was very artistic, loved music, pictures, and took a great interest in architecture. He had had many homosexual experiences; he was loved by and loved men, and never entertained any sexual feeling for women. As soon as I entered into his life I found that he had a striking polymorphous perverse sexuality which continued into the age of puberty. His desire for looking was especially strong. At the age of from 6 to 8 he used to lock himself in the bathroom and look at himself naked in the mirror. He often put the mirror on the floor and excited himself by looking at his penis. Although he at first recalled no heterosexual experience, he later recalled many such incidents. Thus at the age of 6, while visiting a relative, he slept with a servant who practiced masturbation with him. She also taught him sexual intercourse. Five years later at the age of 11 years he met this servant and attempted intercourse with her. At the same age he had a number of sexual experiences with a girl of 14 years. His homosexual experiences began at the age of 9 years when he was taught fellatio by a classmate. He was his mother's pet. When he was young he was very much attached to her, but after the age of puberty he could never be with her without quarreling. His father he openly hated. I should like to give you a full analysis of this very interesting case, but I shall reserve this for another occasion, and will simply say that this case demonstrates with absolute certainty the psychologic mechanisms found by Freud and Sadger. After six months' treatment the patient left me perfectly cured and has remained so ever since.

CASE 2.—O., 46 years old, single, American, was referred to me for treatment for psychosexual impotence by Dr. W. S. Reynolds in the beginning of May, 1909. The patient stated that he attempted intercourse at the age of 22 years and failed, and since then had been unable to get an erection without being helped by friction. For about a year before coming to me he attempted intercourse three times, for experimental reasons as he put it, and succeeded in getting only "half an erection." The patient was somewhat shy, and of the plethoric type. He gave a clear account of his life and soon became interested in the analysis. After studying him for two weeks I discovered that his impotence was due to homosexuality. His *vita sexualis* was characterized by a rather prolonged infantile sexuality. He wet the bed up to the age of 13 years. Between the ages of 6 and 8 years he practiced exhibitionism with a little girl. At the age of 12 years he began to masturbate, a practice which he continued to the time of treatment with Dr. Reynolds. He attempted heterosexual intercourse at the age of 22 years, and his first homosexual experience began at the age of 29 years and continued on and off whenever the occasion presented itself. These experiences

12. Sadger: Ein Fall von multipler Perversion, p. 112.

13. Brill: The Only or Favorite Child in Adult Life, New York State Jour. Med., September, 1912; reprinted as Chapter X in Psychanalysis, Its Theories and Practical Application, Saunders Publishing Co., Philadelphia.

were always accompanied by conflicts and feelings of remorse. When young he was very fond of his mother, but since the age of 8 years she had disgusted him because "she gave birth to so many children." This patient showed no secondary sex characters, although he himself thought that he did not have enough hair on his face and that his penis was small. His penis was slightly below the average. When I first discovered the patient's homosexuality I took a rather gloomy view of the prognosis. My reason for feeling so was that he entertained some vague ideas of reference. He imagined that whenever he came near men they made certain motions which meant to him that they considered him effeminate, but after ten months' treatment the patient left me cured. The analysis demonstrated almost all the homosexual mechanisms.

CASE 3.—Patient, aged 28 years, single, American, actor, was referred to me by Dr. Frederick Peterson in the beginning of March, 1912. The patient was anxious to be cured of homosexuality. He himself thought that it was congenital, as he recalled that he became sexually excited at the age of 5 years on the occasion of sleeping with his father. He showed no secondary sex characters, and analysis showed that for some time before this episode there was an affective sexual experience which prepared the soil for the later development of the inversion. This case was especially interesting because besides the homosexuality the patient also evinced very strong sadistic perversions. He entertained many sadistic fancies. He longed for the days when the people went around armed with dirks and daggers, and he usually carried a revolver in his pocket. He spent considerable time in the menagerie in front of the tiger's cage. He loved to see the tiger excited and to hear him roar and he imagined that he exerted a certain influence over the tiger. The analysis brought out all the mechanisms found by Freud and Sadger in their inverts, and after six months treatment the patient was discharged as cured, and has remained perfectly normal since.

I could cite a number of other cases of the different forms of homosexuality which I have cured by psychanalysis, but, as it is impossible to give here more than a few lines of cases that would consume hours of reading, I will close my paper with the wish that it may serve to throw some light on these obscure phenomena and remove some of the prejudices to which these unfortunates are subjected.

ABSTRACT OF DISCUSSION

DR. D'ORSAY HECHT, Chicago: I should like to ask Dr. Brill whether or not he made any special inquiry into the heredity of these homosexuals. As I recall it, he stated that they did not show any particular inheritance that could be of a degenerative type. I do not ask because I question his statement, but because, after all, I think that there is always a latitude in the interpretation of what constitutes inheritance, as to whether or not a person could inherit a certain tendency not rationally acquired, but having a physical basis which would permit these sexual perversions to take root and remain for all time.

I was also impressed with the effort of Dr. Brill to correct homosexuality by decrying it. But if in the eye of the specialist homosexuality is but a contravention, socially speaking, and if it has just as much right to a hearing from the point of view of a sexual act as has heterosexuality, I really cannot see why the homosexual should care to be delivered from his homosexuality, except that he feels disgraced by it. Then again, a large number of homosexuals are in no way abhorrent of themselves in respect to their natures; they seem to be perfectly happy and perfectly well adjusted, probably in a restricted sense, and these patients probably are not worth while treating as Dr. Brill treats them. If we accept homosexuality as a condition which has as much right to exist as heterosexuality, why should we address ourselves to the duty of treating it?

I am wondering, too, whether or not the antisocial attitude toward the homosexual individual is, so far as the law is concerned, out of all proportion to the offense as it is conceived by the medical man. It is a fact that in Great Britain, for instance, the attitude on the part of the British law toward the offense of sodomy as a social crime is tremendously severe. But there must be something in homosexuality much more potential than merely the fact that the homosexuals are attracted by certain special attributes of the male, as stated by Dr. Brill; there must be something in homosexuality that far transcends what Dr. Brill conceives as homosexuality. I would ask Dr. Brill if the law takes this into consideration when it comes to the application of punishment for these offenses against society, such as, for instance, we have seen so well characterized in the celebrated case against Oscar Wilde. That, of course, was one of the most flagrant offenses of the kind, at least in the stratum of society in which it was practiced, of which we have knowledge.

DR. HOWELL T. PERSHING, Denver: I should like to ask Dr. Brill, when he has made the diagnosis and satisfied himself of the origin of the perversion, in what way he treats it.

DR. ROSS MOORE, Los Angeles: One point that occurred to me as Dr. Brill was reading, and which was not particularly clear to me, was this: In the early part of his paper he spoke about a number of patients coming to him for some psychosis or for impotence, who did not know before they came to him that they were homosexual, and I wondered whether Dr. Brill, or any of us in carrying on such work as Dr. Brill has carried on in his cases, might not be in danger of doing society an injury as society sees the matter, or the patient an injury, by suggesting to him the possibility of homosexual conditions —whether or not it is a cure to make the man understand that he is homosexual.

I want to ask also how much of the real fundamental psychanalysis according to Croy he used in these cases. I have wondered whether or not he has modified the idea of psychanalysis, as ordinarily practiced, etc., in the handling of these cases. I should be very glad to have him tell us a little about it.

DR. ALBERT E. STERNE, Indianapolis: I have found it difficult to reconcile the statement Dr. Brill has made, that these individuals were not mentally or physically in any sense alienated from that which is commonly regarded as normal, with the impression which I gained that there is a distinct abnormality presented by the individuals in the three cases reported in detail. It is very hard to reconcile oneself to experiences in conditions of this kind and not recognize certain collateral conditions that have been manifested by these individuals; in other words, to look on this homosexuality as an isolated phenomenon. We are not accustomed, of course, to regard this abnormality as a manifestation of a mental condition, while we do regard it as a marked evidence of degeneracy. This subject has, of course, considerable ethical importance.

It is hard for me again to realize, not only from the paper that Dr. Brill has given us, but also in personal conversations with him, how he can feel satisfied, and how he can convince others, that these individuals are absolutely cured. He simply takes the statement of the patient that he no longer indulges in the practice that he had earlier acknowledged. That may be convincing to Dr. Brill, but it is pretty difficult at a distance to be convinced.

DR. A. A. BRILL, New York: In some cases I found no hereditary factors. I did not go into any theories at all, but based conclusions on the results of mental examination of average patients. Most of these patients recover, though they are content to remain homosexual. Those who wish to get well are young adults if they are mentally normal. I tell them that it will take them a long time to recover, and that if they will leave the matter entirely to me I will start treatment; otherwise I will not start treatment.

The only way I could answer Dr. Pershing's question would be to give him the analysis of a typical case. But this would be impossible considering that I spend an hour with the patient six times a week for six months.

With reference to the question of determining that a person is homosexual:

A patient came to me who was said to have nothing the matter with his sexual life, but who had convulsions. I had seen him not more than three times when I said to him, "You are homosexual," and I explained what I meant. He told me that while at college he never indulged in sexual acts, and that for this reason he used to wrestle, during which he would have ejaculation, and he selected his partners. Unquestionably from the beginning of his existence he was homosexual, although he was able to have sexual intercourse with his wife, but he was compelled to marry when quite young; he was "prodded into it," as he said. He came to me to be treated for neurosis, but the neurosis was simply the result of homosexual lack of gratification.

We should be particularly careful not to suggest anything. I never tell a patient at once that he is homosexual. Be reasonably sure that he is homosexual and you need not then hesitate to tell him so.

Answering Dr. Sterne's question as to how I can determine that the patient is cured:

A patient who comes to me and tells me, for example, that he will commit suicide if he cannot be relieved of his terrible condition. When that patient suddenly changes and falls in love with a woman and marries her, I can see no reason to doubt that he is cured when he never had any such feeling before. Moreover, the man does not come to me at my solicitation. He comes to me with something definite; I follow the case for months or perhaps more than a year; I know him better than any one else in the world, and he has no reason to lie.

Those men are, as a rule, no different from a crowd of heterosexuals, and, further, they belong to some of the finest types. Those are the only cases that I have analyzed, and I believe that only persons of a high type should be analyzed, for those are the ones we should reclaim. We cannot accomplish anything satisfactory in the case of ignorant persons.

DIURETICS IN CARDIAC DISEASE

A GENERAL REVIEW *

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In considering the subject of diuretics in cardiac disease it is essential that we frame in our minds some tentative idea of the forms of cardiac disease in which it is desirable to resort to diuretics at all; secondly, that we form a clear idea of the manner in which the lesion of the heart affects the action of the kidney; and thirdly, that we consider the mode of action by virtue of which the particular diuretic drugs under consideration may be expected to remedy these disturbed conditions.

With full realization that I am making rough and arbitrary divisions, I may say that one might consider the advisability of resorting to diuretic measures in five forms of disease of the circulation: (1) infective endocarditis; (2) arteriosclerosis with periodic attacks of the various disturbances associated with localized arteriosclerosis, vertigo, headaches, transitory cardiac asthma or pulmonary edema, angina pectoris and vasomotor crises; (3) chronic or paroxysmal hypertension without edema; (4) acute cardiac overstrain, and (5) broken systemic compensation with chronic passive congestion, and edema with or without general anasarca, ascites, hydrothorax or hydropericardium, arising from myocardial weakness, valvular insufficiency or adherent pericardium.

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Sixty-Fourth Annual Session, held at Minneapolis, June, 1913.

In acute and chronic infective endocarditis one encounters, it is true, a scanty urine with albumin and red blood-cells just as in passive congestion; but as Baehr[1] has shown, this is due to the presence of a true infective glomerulonephritis with emboli of *Streptococcus viridans* in the loops of capillaries in the glomeruli, and it should accordingly be treated as a primary nephritis rather than as a primary heart disease. I shall therefore leave this question to be discussed by Dr. Christian.

In the groups of arteriosclerosis and of chronic hypertension one might well be tempted to resort to diuretics to remove products of auto-intoxication or to relieve a possible plethora, but in either case it would be questionable whether or not such an effect could be secured or would be desirable. It is useless to try to lower the blood-pressure by removing water from the blood by diuresis, because that water is immediately replaced from the tissues, and in some cases diuretics may even drive an excess of water from the tissues into the blood (Weber[2]). In both of these conditions, as von Noorden[3] has shown, it is better to spare the arteries and kidneys from overwork by light diet and restriction of salt and water than to remove these substances from the system with diuretics.

In acute cardiac overstrain, on the other hand, such as we meet in athletes after a boat race, a football game or a tug of war, or in the less romantic walks of life in persons who have performed feats of strength or exertion involving hard lifting, pushing or pulling, one is often confronted by a scanty urine containing albumin, casts and even red blood-cells (A. R. B. Myers,[4] da Costa,[5] Meylan[6]). This is due entirely to the congestion of the kidney resulting from venous stasis during the overstrain, and is therefore of primary cardiac origin; but, as these writers have shown, it is of entirely transitory duration and clears up when the strain is over and the heart once more under normal conditions. From a very complete study of the history of many decades of Harvard oarsmen, moreover, Meylan has shown that neither the heart nor the kidney shows signs of damage in after years, and the condition therefore can be left to take care of itself without the intervention of diuretic measures.

The chief condition in which active intervention to induce diuresis is advisable is in broken systemic compensation with edema from stasis in the systemic veins either from failure of the right ventricle, tricuspid stenosis or adherent pericardium (especially Pick's pericarditic pseudocirrhosis). In all cases of passive congestion the changes in the circulation closely simulate those observed in asphyxia, and Cohnheim and Roy[7] have shown that in the kidney the first effect of asphyxia is a constriction of the renal vessels and diminution or cessation of flow of urine. This constriction has its origin in the vasomotor center and is absent if the nerves to the kidney are cut or become paralyzed, under

1. Baehr, G.: Glomerular Lesions of Subacute Bacterial Endocarditis, Am. Jour. Med. Sc., 1912, cxliv, 327.
2. Weber, S.: Ueber die Beeinflussung der Resorption durch Diuretica, Verhandl. d. Kong. f. inn. Med., 1906, xxiii, 518.
3. Von Noorden: Clinical Treatise on Disease of Metabolism, 1903.
4. Myers, A. R. B.: Etiology and Prevalence of Diseases of the Heart Among Soldiers, London, 1870.
5. da Costa, J. M.: On the Irritable Heart: a Clinical Study of a Form of Functional Cardiac Diseases and Its Consequences, Am. Jour. Med. Sc., 1871, lxi, 17.
6. Meylan, G. L.: Harvard University Oarsmen, Harvard Grad. Mag., 1904, xii, 362, 543.
7. Cohnheim, J., and Roy, C. S.: Untersuchungen über die Circulation in der Niere, Virchows Arch. f. path. Anat., 1883, xcii, 424.

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which condition the volume of the kidney and the amount of blood flowing through it follow and are determined by the general blood-pressure. Prolonged stasis gives rise here as elsewhere to cloudy swelling of the kidney-cells of both the tubules and glomerular capsule, and to swelling of the tissues, which tend still further to choke the circulation through the renal vessels (Fischer[8]), leading in vicious circle to still more degeneration of the renal epithelium and glomeruli and finally to the proliferation of connective tissue which results in the formation of the typical hard red kidney of chronic passive congestion (*Stauungsniere*, Senator,[9] Aschoff[10]) whether it be of the large or small and contracted type.

The functional power of the kidney in passive congestion has recently been subjected to a very careful clinical and experimental study by Rowntree, Fitz and Geraghty,[11] testing the function of the glomeruli by Schlayer's[12] lactose test (duration of excretion of 2 gm. of lactose in 20 c.c. of water introduced intravenously) and the activity of the tubules by the excretion of salt, potassium iodid and phenolsulphonephthalein (method of Rowntree and Geraghty). They found that in cardiac decompensation the amount of urine may vary and is no absolute index of the functional power of the kidney, although it is diminished in grades of stasis, but that the ability to excrete salt may be diminished in stasis of moderate grade even before a diminished excretion of phenolsulphonephthalein gives evidence of wide-spread damage to the tubules. Lactose, the index of glomerular function, is always delayed. Nonnenbruch[13] in a less complete study also finds that in chronic passive congestion there is evidence of both vascular and tubular injury.

As regards the general edema which accompanies passive congestion Widal and Javal,[14] Strauss[15] and Magnus-Levy[16] have shown that it is associated with retention of sodium chlorid by the tissues, and Loeb[17] and Fischer[8] have demonstrated that the edema itself is determined more by the local formation of acid products which cause the tissue to take water by imbibition than by the changes in the walls of the vessels.

Fischer believes that the same laws of colloid imbibition govern both retention and excretion of water by the kidney, and hence believes that administration of alkalies, by antagonizing the effects of local acid products, gives a therapy applicable to both the edema and the renal conditions.

We owe our knowledge of the most important of cardiac diuretic drugs, the foxglove or digitalis, to an old woman in Shropshire who as Withering[18] (1785) tells us "had sometimes made cures after the more regular practitioners failed"; and since William Withering, according to his own words, was "open to information regardless of the source from whence it springs," he investigated this drug and "soon found the foxglove to be a powerful diuretic" so that he came "to use it in ascites, anasarca and hydrops pectoris, and as far as the removal of the water will contribute to cure the patient, so far may be expected of the medicine." Indeed, the excellent results which that old physician obtained in over a hundred cases justified his optimism. Digitalis is the diuretic of choice in all cardiac conditions with failure of the circulation because it combines in a most fortunate way all the modes of action that are desirable in counteracting the condition. As Traube[19] and Lauder Brunton[20] have shown, it increases the force of the heart-beat, the blood-pressure and as a rule the velocity of blood-flow, and also causes a constriction of the blood-vessels of the skin and intestines. But the experiments of Brunton and Power and of Gottlieb and Magnus[21] demonstrate that the renal vessels do not take part in this constriction due to digitalis, but that on the contrary more blood flows through the kidney than before. All the experimenters from Withering to the present have found that digitalis acts as a diuretic in normal kidneys even when it causes no change in blood-pressure; but in these cases it acts both by dilating the renal vessels and by some specific action on the renal epithelium. Cushny[22] has called attention to the fact that all purgatives have also some diuretic action by giving rise to what he terms "diarrhea of the tubules," and since even before Withering digitalis was known as a purgative drug, it is natural that it also should have some specific action on the renal epithelium, though this is not nearly as marked as with drugs of the purin group.

On the other hand, most of the effect of digitalis depends on its action on the circulation, the velocity of blood-flow and the pulse-pressure. Since Rowntree and Fitz have shown that in chronic passive congestion the power of the kidney to excrete lactose is diminished, and since Schlayer has shown that the lactose excretion

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12. Schlayer and Hedinger: Experimentelle Studien über toxische Nephritis, Deutsch. Arch. f. klin. Med., 1906, xc. I. Schlayer, Hedinger and Takayusu: Ueber nephritisches Oedem, ibid., 1907, xci, 59. Schlayer and Takayusu: Untersuchungen über die Funktion kranker Nieren, ibid., 1910, xcviii, 17; also 1910, ci, 333. Schlayer: Untersuchungen über die Funktion kranker Nieren. B. Chronische vaskuläre Nephritiden, ibid., 1911, cii, 311. Schmid and Schlayer: Ueber nephritisches Oedem, ibid., 1911, civ, 44. Schlayer: Untersuchungen über die Funktion kranker menschlicher Nieren, Verhandl. d. Kong. f. inn. Med., 1910, xxvii, 744; Ueber die Ermüdbarkeit der Nierenfunktion, ibid., 1912, xxix, 501.

13. Nonnenbruch: Zur Kenntniss der Funktion der Stauungsniere, Deutsch. Arch. f. klin. Med., 1913, cx, 162.

14. Widal, F., and Javal, A.: La cure de dechloruration son action sur l'oedeme sur l'hydratation et sur l'albuminurie à certaines périodes de l'albuminurie épithéliale, Bull. et mém. Soc. méd. d. hôp. de Paris, 1903, ser. 3, xx, 733. Widal, F.: Die Kochsalzentziehungskur in der Bright'schen Krankheit, Verhandl. d. Kong. f. inn. Med., 1909, xxvi, 43.

15. Strauss, H.: Zur Frage der Kochsalz und Flüssigkeitszufuhr bei Herz und Nierenkrankheiten, Therap. d. Gegenw., 1903, N. F., v, 433. Symposium on Therapeutics, Med. News, 1903, lxxxiii, 673. Die Chlorentziehung bei Nieren und Herzwassersucht, Verhandl. d. Kong. f. inn. Med., 1909, xxvi, 91.

16. Magnus-Levy, A.: Dehydration by Dietetic Measures, THE JOURNAL A. M. A., Dec. 17, 1910, p. 2139.

17. Loeb, J.: Physiologische Untersuchungen über Ionenwirkungen, Arch. f. d. ges. Physiol., 1898, lxxi, 468.

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19. Traube, L.: Gesammelte Beiträge, Berlin, 1871-1878.

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may be taken as an index of the ability of the kidney vessels to react, it is evident that in passive congestion the activity of the kidney must depend more on the condition of the general circulation than does the normal kidney. Now Erlanger and Hooker[23] have shown that, other things being equal, there is a close parallelism between the amount of urine excreted and the pulse-pressure or the amount of change of blood-pressure with each heart-beat (that is, the difference between maximal and minimal blood-pressure), and on the other hand that in orthostatic albuminuria the albumin is excreted only when the pulse-pressure is low or falling. Gesell[24] has shown that this diuresis depends directly on the pulse-pressure because he has been able to produce it in excised kidneys by increasing the pulse-pressure without permitting any change in the amount of blood flowing through the kidney. The pulsation of the blood-stream is communicated as far as the glomeruli, for Nussbaum[25] has been able to watch these structures pulsate in the frog, and it is therefore likely that the pulsation bears a definite relation to filtration in the glomeruli where, on account of the size of the arteries leading to the tuft, pulsation must be much more marked than along the tubules. Now, as stated before, one of the well-marked effects of digitalis is to increase both the systolic output of the heart and the pulse-pressure, and therefore to increase filtration through the glomeruli and bring on diuresis. This is by far the most marked in cases of cardiac irregularity and especially in patients with auricular fibrillation. In these cases before the administration of digitalis the pulse-rate is fast, the beats are small and the pulse-pressure is very small, so that oliguria is the rule. Digitalis blocks off many of the impulses from reaching the ventricles, and slows the latter so that large slow beats with large pulse-pressure result bringing with them the optimum conditions for renal secretion, and within twenty-four hours the urine may be increased fivefold or tenfold.

In using digitalis it is important, as Pratt[26] and Hale[27] have insisted, to obtain a preparation which has been standardized physiologically, so that one can be certain that he is giving an adequate amount of the drug; but whether one use the galenical tincture or the fluidextract or the powder of a good digitalis leaf or resort to one of the special preparations of digitalis bodies, either the digitalin, digalen, digitaline-Nativelle (which is digitoxin), or the digitonin-free digitalis (digipuratum) does not seem to make any essential difference. There is a wide-spread clinical teaching that the infusion of digitalis is preferable, as a diuretic, to the tincture; but most of the evidence is based on studies made before digitalis preparations were standardized. The infusion probably contains more digitonin than the other preparations, but I have thus far found no evidence which is conclusive to me that a good infusion is more efficacious than an equally good tincture or one of the active digitalis bodies, whereas on the other hand infusions are much more subject to variation and to spoiling.

Among the other bodies of the digitalis group I can bear witness to the excellent effects first noted by Fraenkel for the administration of from 0.5 to 1 mg. strophantin into either the veins or muscles. Its diuretic effect seems to run parallel to the effect on the circulation.

When we come to the other members of the digitalis group, squill, convallaria, adonis vernalis, hellebore and erythrophloeum, however, a question arises, not of their absolute efficacy, but of whether or not any of them are as efficacious as digitalis or strophanthin as diuretics from quickening of the entire blood-flow through the body; or, on the other hand, as efficacious as are the diuretics of the purin group in their action. The experience of decades has shown that squill is an excellent diuretic, especially when given with digitalis, but the careful critical tests of Mackenzie[28] show that when periods of squill administration alternate with periods of digitalis administration in the same patient there is no preponderance of evidence in favor of the superiority of squill.

On the other hand, when we desire a more powerful diuresis than is afforded by digitalis we make use of the diuretics of the purin or caffein group—caffein, theobromin, theophyllin or theocin—which as Loewi[29] has shown act both by dilating the renal vessels and by direct action on the renal epithelium.

According to the studies of Loewi[29] and his collaborators the drugs of this series act largely through bringing on dilatation of the renal vessels, although he has demonstrated that they may also act directly on the renal epithelium when dilatation of the vessels is prevented. Observations by Meyer in diabetes insipidus corroborate this view. The caffein series is particularly efficacious in those cases of cardiac dropsy in which the kidney cells have not yet become greatly damaged, and one will often encounter cases in which these drugs will bring on a diuresis not obtainable by the digitalis series. Of the caffein group theobromin is a more potent diuretic than caffein (caffein citrate) itself; and theophyllin, an isomer of theobromin, is still more potent than theobromin. The most convenient form of all is the water-soluble acet-theocin sodium in doses of about 3 grains (0.2 gm.) three times a day; it not only gives greater diuresis but may also cause diuresis in cases in which theobromin sodium salicylate evoked no response whatever. Erich Meyer[30] calls attention to the fact that in cases of primary cardiac disease one obtains an intense diuresis with great benefit to the patient from drugs of the caffein series, in contrast to the cases of primary nephritis, in which he has never seen any recognizable benefit from their use. Indeed, the recent studies of Schlayer, Mosenthal, Christian and Janeway indicates that when there is sufficient damage to the kidney these diuretics soon fatigue the latter, cease to produce a response, and then actually diminish rather

23. Erlanger, J., and Hooker, D. R.: An Experimental Study of Blood-Pressure and Pulse-Pressure in Man, Johns Hopkins Hosp. Rep., 1904, xii, 145. Hooker, D. R.: A Study of the Isolated Kidney: the Influence of Pulse-Pressure on Renal Function, Am. Jour. Physiol., 1910, xxvii, 24; Postural or Orthostatic Albuminuria, Arch. Int. Med., May, 1910, p. 491. Hooker, D. R., Hegeman, R. F., and Zartman, L. V.: The Relation of Pulse-Pressure to the Appearance of Albumin in a Case of Orthostatic Albuminuria, Am. Jour. Physiol., 1908-1909, xxiii, p. 11.

24. Gesell, R.: The Relation of Pulse-Pressure to Renal Secretion, Am. Jour. Physiol., 1913, xxxii, 70.

25. Nussbaum, M.: Untersuchungen über die Secretion der Niere, Arch. f. d. ges. Physiol., 1878, xvi, 142; 1878, xvii, 580. Also discussed by Brodie, T. G.: Renal Activity, Harvey Lect., New York, 1909-1910, p. 81

26. Pratt, J. H.: The Potency of Digitalis Preparations, Boston Med. and Surg. Jour., 1910, clxiii, 279.

27. Hale, W.: Digitalis Standardization and the Variability of Crude and Medicinal Preparations, Bull. 47, Hyg. Lab., U. S. P. H. S., Washington, 1911.

28. Mackenzie, J.: Digitalis, Heart, 1910-1911, ii, 273. Cushny, A. R.: On the Action of the Digitalis Series on the Circulation in Mammals, Jour. Exper. Med., 1897, ii, 235.

29. Fletcher, W. M., Henderson, V. E., and Loewi, O.: Mitteilungen über den Mechanismus der Diurese, Arch. f. exper. Path. u. Pharmakol., 1905, liii, 15. Alcock, N. H., and Loewi, O.: Ueber den Mechanismus der Salzdiurese, ibid., 1905, liii, 33. Henderson, V. E., and Loewi, O.: Ueber den Mechanismus des Harnstoffdiurese, ibid., 1905, liii, 49; also Ueber die Wirkung der Vasodilatatorenreizung, ibid., 1905, liii, 56.

30. Meyer, E. Y.: Beitrag zur Wirkungsweise einiger gebräuchlicher Diuretika, Therap. Monatsh., 1911, xxv, 11.

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than increase renal secretion. On the other hand, one does encounter cases of long-standing heart-failure in which the administration of these diuretics does not produce a diuresis, or in which, quite comparable to Schlayer's experience in primary nephritis, the first doses are followed by increased output of urine but subsequent doses are not. This is not surprising since Schlayer, Rowntree and Fitz, and Nonnenbruch have shown that in these cases there is a secondary diminution in renal function of both tubules and glomeruli and definite injury of the tissue. Fortunately, Rowntree has provided us in the phenolsulphonephthalein test with a simple, quick and easy method of determining in any given case the exact extent to which the renal epithelium is injured. If we make a phthalein test as soon as we see the patient, we can tell in two hours whether his renal epithelium is working well or is out of function.[31]

If the phthalein excretion is low—30 per cent. or less in two hours—we can know at once that we are somewhere near the point at which theocin might injure the renal epithelium; and it will be better to rely on the digitalis and try to improve the circulation before trying to stimulate the kidney. If the general circulation improves, as Rowntree and Geraghty and also Erich Meyer have shown, the function of the renal epithelium will return very rapidly to nearly normal and then one need not be afraid of acting on it with these powerful diuretics. Therefore, we should aim first to improve the circulation with digitalis and leave the removal of the edema for the administration of caffein diuretics a few days later.

The same precautions apply to the saline diuretics, potassium acetate, citrate and tartrate, although they are probably less irritant to the kidney than are the caffein series, and their effect also is limited by the same conditions. Unfortunately, this is true also of Martin Fischer's method of administering salt and sodium carbonate intravenously or by rectum, for Fischer states specifically that "when a heart drops below the lowest level of efficiency and has no recuperative powers left in it, alkali and salt cannot supply them." On the other hand, when the circulation is improving, the acetates, citrates and tartrates which are transformed into carbonate in the body and are excreted as such are much easier and more pleasant to the patient than the carbonate.

One of the oldest drugs that has been used in failure of the circulation is calomel, and with many excellent physicians it is a routine to prescribe purgation with calomel as soon as they see a patient with heart-failure. Frequently, however, one finds a copious secretion of urine occurring even before the bowels have moved and at least soon afterward. Flechseder[32] has shown, however, that most of the excess of water that is thus excreted through the kidneys is first exuded into the upper bowel and is then reabsorbed as pure water by the lower bowel and excreted as such through the kidneys, and he finds that the diuresis from calomel is greatly increased if the outflow from the lower bowel is hindered by administration of morphin. The good effects of calomel in cardiac disease is testified to by its long empirical use, particularly in the form of the pill of Addison and Niemeyer (digitalis 1 grain, squill 1 grain and calomel 1/8 grain). Calomel acts particularly on the tubules, and tends to increase the excretion of sodium chlorid more than the total volume of urine, so that as Meyer has shown, the amount of salt excreted may be raised to six or seven times the former level. It is of course beneficial to deplete the tissues not only of water but also of this excess of sodium; but it must never be forgotten that calomel acts on the kidney by being converted into mercuric chlorid and that any excess may give rise to a bichlorid nephritis which affects chiefly the tubules (Richter, Schlayer). It is particularly dangerous, therefore, in cases in which the renal epithelium is already badly damaged, and the precaution of a phthalein test is therefore doubly advisable. On the other hand, it is probable that the pendulum has swung a little too far toward the side of fear and that in the great majority of cases of decompensation the kidney is not injured enough to be sensitive to a single dose of calomel, especially if no morphin has been given to prevent the normal purgation.

It must also be borne in mind that a number of purely physical procedures may influence the excretory power of the kidney. The pressure within the abdomen from ascites may be so great as to compress the renal vein and cause a congestion oliguria which may subside as soon as the ascitic fluid is removed by paracentesis; the emptying of distended bowels may allow the heart to lie in a better position and enable it to exert more efficient contractions so that the circulation becomes improved, spasm of the kidney vessels passes off, swelling of the renal tissue may subside and restitution of renal function thus set in. So also after the tapping of a hydrothorax or the performance of a venesection; and, indeed, after venesection we have an added acceleration of the blood-stream through the kidneys on account of a decrease in blood viscosity. Hot packs or poultices over the kidneys and abdomen and irrigation of the bowel with liquid at a temperature of from 102 to 105 F. may also cause further dilatation of the kidney vessels from heat alone and thus bring on diuresis.

Since Schlayer has shown us that the kidney fatigues just like the heart it is important in the more severe stages of combined heart and kidney failure to apply to both the principle of rest. This is best exemplified in the Karell[33] diet—giving the patient nothing but from 600 to 800 c.c. (from 20 to 25 ounces) of milk daily until he has begun to improve. During the stage of edema it is also important to limit the ingestion of salt unless one is definitely following the method of Fischer; for, as Rowntree and Fitz have shown, the power to excrete salt may be diminished very early in the stage of congestion. The failing kidneys may also be spared further work if the excess of fluid from the body be removed by a not too vigorous purgation or by mechanical means, either by incisions in the skin or better by puncturing the latter with Southey or Curschmann tubes and allowing the power of a siphon tube down to the level of the floor to add itself to the elastic exudation from the tissues.

In general we should aim first to know the exact state of the kidneys; second, to improve the circulation with digitalis or to spare it with the Karell diet; and, thirdly, to resort to theocin or the saline diuretics to relieve edema if the renal epithelium is not severely injured.[34]

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31. I should like to call the attention of those who may consider a phthalein test a difficult or expensive procedure to the fact that a simple home-made colorimeter can readily be constructed which is accurate to less than 3 per cent. and is very easy to use. A description of this colorimeter will be published soon.

32. Flechseder: Quoted from Meyer and Gottlieb.

33. Karell, T.: Arch. gén. de méd., quoted from von Wittfeh: Ueber den Werth der Karellkur zur Behandlung von Kreislaufstörungen, Deutsch. Arch. f. klin. Med., 1913, cx, 128.

34. In addition to the references given in the text, the following will be found of interest:

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ABSTRACT OF DISCUSSION

DR. PHILIP S. ROY, Washington, D. C.: Bleeding is one of the most important therapeutic agents in cardiovascular dropsies, in cases in which we want to increase the action of the kidneys. About six months ago I had a man who was eliminating one pint of urine in twenty-four hours. After bleeding a pint the kidneys eliminated two gallons in forty-eight hours. He was taking no drug at that time. Digitalis, of course, acts best in pulsus irregularis perpetuus or fibrillation of the auricle. Mr. Sawyer always gives digitalis when the veins are too full and the arteries not full enough; in other words when the right side of the heart is overtaxed. I have followed Mr. Sawyer's advice in the last few years with good results. I know Dr. Hirschfelder intended to mention rest along with diet in the treatment of diseases of the heart. Rest, digitalis and diet are the three cardinal therapeutic agents in treating diseases of the cardiovascular system, but as I have mentioned, blood-letting will often produce diuresis when other agents have failed.

DR. B. FANTUS, Chicago: I wonder whether Dr. Hirschfelder purposely omitted reference to the production of hyperemia of the back by means of heat, as by poultices, or of chemical irritants, as by mustard applications, or of suction, as by means of dry cups. It is true that the experimental basis of these procedures is still insufficient. Whether hyperemia of the back produces anemia or hyperemia of the kidney is still one of the mooted questions so far as I know. But that it is well-founded clinically I believe some of the practitioners present will agree.

DR. FRANK BILLINGS, Chicago: I should have liked to hear Dr. Hirschfelder say more about the management of this condition without drugs. My own experience is that, in decompensation of the heart with anasarca, with that condition of the kidney of a cyanotic type in which the circulation through the kidney is very small in a given time, to begin with the use of digitalis practically results in failure. Preliminary to the use of the drug must come absolute rest and reduction of fluid intake for any given time to relieve the patient of much of his dropsy. Reduction of the fluid intake may be secured by giving milk alone not to exceed a liter in twenty-four hours or even less, or absolute starvation with water alone. This treatment should be accompanied by excretion through the bowel by free purgation. It is a matter of choice as to what one will use as the cathartic. The objection made by some that the use of salines in these cases may cause the accumulation of more salines in the body that are harmful I think a point well taken, but in that case even one has at hand plenty of other vegetable cathartics. The too early use of heart tonics of the digitalis group with the heart doing all it can may be harmful to the heart fighting against an obstruction it cannot overcome.

DR. ROBERT A. HATCHER, New York: It has long been held that the tincture of digitalis and the infusion have different actions, but no one seems to have tested the matter experimentally. The marc left after making the tincture is inert, hence the tincture must be supposed to contain all of the active principles of the leaf. Different substances have been called "digitonin" by different observers, leading to a good deal of confusion with regard to that substance. Digitalis leaf contains only traces of the saponin, digitonin, a matter to which I wish to call attention because of the false claims which have been made with reference to preparations of digitalis alleged to be free from digitonin.

DR. A. D. HIRSCHFELDER, Baltimore: For renal hyperemia I mentioned merely hot applications both to the back and to the abdominal wall, which certainly brings about by the heat minor and reflex vasodilatation to the kidney, which I believe is most important. I think that it is quite probable that the very hot rectal infusions that Dr. Martin Fischer recommends in his rectal infusion method of carbonate and chlorid may, by their proximity at least to the left kidney, give rise to a reflex dilatation in those kidneys in which an element of force may be spasm, which was demonstrated by Roy, Cohnheim, Thacher and others as playing a rôle. My general ideas about the management of a case of cardiac failing compensation with edema which demand cardiac measures closely coincide to those of Dr. Billings, but one must avoid too free purgation, for instance, fifteen bowel movements daily, as was in vogue some years ago, especially in those cases of aortic insufficiency which are affected by temporary, sudden rises in blood-pressure. Dr. Dandy has demonstrated that in the act of defecation the blood may jump 50 mm. of mercury. In failing aortic insufficiency this may account for some of the sudden deaths at stool. In aiming at drug effects we fire our therapeutics in a volley; we ought in a dangerous case to do as rapidly as possible all that we can at once. In dealing with a dilated heart each measure which tends to relieve the dilatation will tend to place that heart under the mechanical conditions in which it contracts most efficiently and we want to get the overstretched fibers down to the length at which they contract under the conditions of greatest degree of mechanical efficiency by rest, venesection, purgation and digitalis or more probably an intravenous or an intramuscular injection of strophanthin. I cannot say that in my own experience the prompt administration of strophanthin, followed in the next twenty-four hours by digitalis has been, as Dr. Billings suggests, a detrimental procedure. I can well understand that if it were the only procedure used this might be true, but I am not quite clear in my mind as to just what dangers Dr. Billings fears from doing venesection first and then following the temporary, but definite relief of dilatation with immediate injection intravenously of strophanthin. It has seemed to me, both from clinical and experimental work, that it is important to improve the tonus of the heart muscle as well as its power of contraction as quickly as possible. The dilatation depends on a lowered tonicity and increased venous pressure. Digitalis and strophanthin increase tonus and antagonize a high blood-pressure and venesection lowers blood-pressure; then why are not two measures taken together better than one alone?

DR. FRANK BILLINGS, Chicago: I probably did not make myself clear. You answered my question yourself when you said that you would relieve the venous stasis first. In my own experience I would feel that I could give the digitalis with the best results after the venous engorgement was partially or wholly relieved.

DR. HIRSCHFELDER, Baltimore: The action of digitalis on a heart in that condition may perhaps be different from the action on a perfectly healthy heart and I do not know that any experiments in pathologic pharmacology have been made which would throw light on that important question. I think we shall have to take Dr. Billings' experience in this matter into consideration in contrast to experiments done on healthy heart-muscles.

DR. RAY L. WILBUR, San Francisco: My idea in asking for the papers of this clinical symposium was to get something of an authoritative summary in regard to the treatment of such conditions. When I thought of the barrels of ergot injected into tuberculous patients with hemorrhage and of the hogsheads of sweet spirits of nitre given patients with cardiac lesions I thought it would be well to have some authoritative statements so that we could get a fresh start.

THE SIGNIFICANCE OF PLASMA CELLS IN THE TONSIL

A PRELIMINARY REPORT *

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In an article published last year,[1] I emphasized the significance of what I called the hyperfunctionating tonsil in childhood. I there said:

"Mere fluctuation in size of a tonsil in a child ought not to be regarded as a sign of local disease and an indication for enucleation. Many children are constitutionally subject to such fluctuations and the treatment is general more than local." "It is common knowledge that in systemic diseases we have such enlargements and few of us are disposed to argue that these are a sign of focal disease. I would rather regard them as indications of functional activity." Speaking with reference to the region where the respiratory and alimentary tracts meet, I said: "As knowledge advances there is constantly impressed on us the important and unexpected relation of this region to disease. We err if we forget that here as elsewhere the essential resisting power to infection lies in the tissue cells. Further, we shall add to this error if we concentrate our attention too much on leukocyte invasion or exudation to explain initial protection. Whenever from unhygienic surroundings or mode of life, it may be also from constitutional weakness, these tracts are exposed to influences which lower their vitality, the tonsils suffer for them and with them. When the mucous surfaces, particularly absorbent in the child, are exposed to irritation, the tonsil again suffers for them and with them. It seems to me the tonsils in a child protect these tracts especially where they come together in the nasopharynx, and are associated directly with their well-being. If this be so, I am called on to do everything to protect these bodies during the period of functional activity."

An article by Dr. D. J. Davis, which has had considerable influence on the question of the function of tonsils and on the importance of tonsillar disease in systemic affections appeared recently.[2]

In order to make Dr. Davis' opinion clear I quote at some length from his article. He says:

"In all tonsils from individuals who are more than a few weeks old plasma cells are found in abundance. They occur under the epithelium, especially that lining the crypts, along the connective tissue bundles and about the blood-vessels. In the hypertrophied tonsils they are much more numerous. Their significance is not entirely understood, but inasmuch as they are more or less characteristic of chronic inflammatory processes they probably indicate a chronic infection of the tonsillar crypts or the absorption of toxic substances therefrom." In another part of the same article he says: "In view of the fact that plasma cells occur in such large numbers in tonsils, appendix and some other tissues after birth at a time when the crypts and intestinal canal are infected, and associating this with the fact that in chronic infections generally the plasma cell is so constantly found, one is led to suggest that their presence in the tonsil and appendix, and also in the gastro-intestinal tract, lymph glands and spleen is due to a chronic infectious or absorptive process."

The suggestion of Dantchakow and Pirone, that the absorption of ferments may cause sufficient irritation to promote the accumulation of plasma cells, is passed over by Dr. Davis with the following remark:

"In the case of the tonsil, the view is more rational that this organ is in all cases, whether hypertrophied or not, a chronically infected focus shortly after birth, a view apparently supported by bacteriologic studies. It therefore seems reasonable that cells more or less characteristic of chronic inflammation should accumulate here. Not only the nature of these cells, but their accumulation in such large numbers and in localities immediately underneath the epithelium, especially about the infected crypts, also favors such a view."

The views here expressed by so competent an observer as Dr. Davis appeared to me to be somewhat at variance with what I had written. I determined, therefore, to inquire into this aspect of the subject. I was further impelled to do so since, if his conclusions be correct and the opinion here expressed of the significance of plasma cells in the tonsil be true, we seem driven to the conclusion that the supporters of complete enucleation of the tonsil under all conditions have proved their contention that the tonsil is from the earliest stages of life a diseased organ which it is our duty to remove. The conclusions that may be drawn are perhaps wider than Dr. Davis himself will admit. For it appears to me we must further admit that the tonsils and the appendix are vestigial structures. So far as the appendix is concerned we need not here concern ourselves except to note that competent anatomists and physiologists and some very excellent surgeons are not so sure as they were a few years ago that it is a vestigial organ. We are however concerned with the tonsil; and again I reiterate what I have already frequently declared, that neither embryology nor comparative anatomy nor yet physiology gives any support to such an hypothesis. The opinion that they are vestigial in man and even worse than useless has done considerable damage and created prejudice against much endeavor to discover their nature and function.

Every one is becoming more and more convinced of the great importance of the lymphatics and of the adenoid tissue of the pharynx. But the opinions held of the rôle they play in regard to absorption of micro-organisms and toxins is very divergent, though the current view would appear to condemn the large masses of adenoid tissue, root and branch. Though much work is being done much more requires to be done before we can have any but the haziest ideas about their significance. If we start any scientific investigation bearing on this question with a false assumption in regard to tonsils and adenoid tissue generally, our results must come out hopelessly astray. It is well, therefore, that we pause at times to examine the basis for our theories.

Plasma cells occur mostly after birth in blood-forming organs.[3] They arise under certain conditions from two allied groups of cells, lymphoblasts and lymphocytes, and are best designated as lymphoblastic or lymphocytic plasma cells. It is of the utmost importance to remember the relation of the lymphoblasts to the lymphocytes. These cells differ morphologically only in size.[4] Lymphoblasts are cells of the size of myelocytes which possess a weak basophil protoplasm. The fairly large, somewhat irregular nucleus shows a relatively thick cell membrane and strongly colored nuclear granules. Close to the nucleus, usually to one side, there is in the protoplasm a small clear halo which represents the position of the red granules of the Altmann-Schridde stain. The lymphoblasts, according to Aschoff, are a division stage of the lymphocyte and may show mitosis. From them arise lymphocytes, small cells with a round chromatin-

* Read before the American Laryngological Association, May, 1913.

1. Wilson, J. Gordon: The Tonsils in Childhood, Am. Jour. Dis. Child., May, 1912, p. 277.

2. Davis, D. J.: Plasma Cells in the Tonsils, Jour. Infect. Dis., March, 1912, pp. 146 and 158.

3. Maximoff: Folia Haemat., 1907, iv, 625.

4. Aschoff: Pathologische Anatomie, ii, 102.

rich nucleus which usually lodge nuclear bodies which stain strongly. Also around these there is the clear halo comparable to that of the lymphoblasts.

The lymphoblastic plasma cells are less frequently observed than the lymphocytic plasma cells. The former possess the typical lymphoblast nucleus but the protoplasm is more strongly basophil and the halo is larger. The lymphocyte plasma cell has a pronounced nucleus which lies at one end of an almost oval cell. The halo and Altmann-Schridde granules are found in both.

The Unna-Pappenheim pyronin-methylgreen stain, which I have chiefly used, stains the cytoplasm red and the nucleus blue-green; the characteristic features of the plasma cells are the eccentrically placed "wheel" nucleus, and the small clear halo around it. It is called a wheel nucleus because chromatin usually radiates centripetally. Plasma cells may show mitosis as well as two or three nuclei.[5]

Plasma cells are acknowledged to be derived from lymphocytes by irritative processes. In artificially produced inflammation due to toxins, plasma cells appear in great abundance and certain toxins have a special tendency to produce them. They are found in the vicinity of sterile foreign bodies; for example, sterile sponges. Their abundance in chronic infectious processes has made such processes a favorite locus for the study of plasma cells. From this has developed the predominating idea that these cells must be necessarily connected with inflammatory processes.

One great objection that can be raised in regard to many of the investigations into their function is that they have in the main been studied in pathologic tissues and so have come to be regarded more from their pathologic than their physiologic side. Hence has come the undue emphasis which has been placed on their degenerative characteristics. Unna and many pathologists regard them entirely as degenerated cells. It would appear, however, from further investigations that this is too narrow a view, and a view which in the tonsil will be fraught with unfortunate consequences.

It is well recognized that plasma cells occur in all subacute and chronic infectious diseases; but it is not so often remembered that they are also found in organs which we are justified in believing are normal, of course never in such abundance. Thus plasma cells are found in man and other mammals in the hematopoietic and lymphatic systems and in the digestive tract with its associated glands. Professor Schaffer[6] gives a list of various organs in which plasma cells are normally found. He sums up as follows:

> "In short, wherever lymphocytes are, plasma cells can be met with. It is especially to be noted that in many of these places in particular physiologic conditions (digestion, pregnancy), the number of plasma cells can be increased enormously."

There are many facts which compel us to recognize that they are engaged in many normal activities. Thus they appear to be necessary to the discharge of such physiologic activities as digestion and of repair. Pirone[7] demonstrated during digestion a marked increase of plasma cells in the intestine and spleen. This was confirmed by the observation of Joannovics[8] that dogs seven hours after a test meal showed in the intestinal mucosa and submucosa enormous numbers of plasma cells, which lie partly scattered throughout the tissues and partly gathered into clumps. Here they may often be seen with many nuclei quite similar to giant cells. The increase of plasma cells in the spleen during digestion is mostly in the pulp and here they are plentifully found. Very interesting is the interpretation of Dantchakow[9] who concluded from the results of her experiments that there is a connection between glandular activity and plasma cell formation. She attributes to them the function of taking up and carrying away materials elaborated by secretion.

When we compare the results of these experiments with the examination of plasma cells both in normal and pathologic conditions, and when we find that they are found physiologically in the lymphatic tissues and also in the digestive tract with its related glands, the suspicion is immediately awakened that probably the cause of plasma cell production may be referred to some irritant resulting from glandular activity or from the action of ferment as well as from cell degeneration and increased protoplasm destruction. In agreement with this view we have the experiments of Foa who produced abundant plasma cell formation by injecting organ macerations and by inserting foreign muscle tissue. The irritative action of such ferment-like products will explain not only the appearance of plasma cells normally during digestion and in atrophic processes but also the physiologic appearance during involution of the thymus and as a sign of senescence of bone-marrow.

What appears to me to be a clear conception of their function was enunciated by Loewitz[10] who declares that he could not regard the plasma cells as degenerated elements, for when they finally degenerated this followed after the exercise of a certain function. He believed that not only could their formation be caused by ferments but that they are themselves necessary to produce ferments and so are actively engaged in the digestion of albuminous bodies. This is well in keeping with the view of Schaffer[6] who says, "Die Funktion der Plasmazellen besteht in der Fortschaffung und Nutzbarmachung zerfaltenden Zellmaterials." Joannovics in concluding an exhaustive article on this subject declares that in all likelihood they partly represent specific transformed elements with less functionating power. Sooner or later they perish by vacuolization, liquefaction or hyaline degeneration with pyknosis of the nuclei. In regard to their origin the active cause seems to be the irritative action of a hypothetical ferment-like substance produced by secretory glandular activity, by atrophic conditions and by the disintegration of cellular elements.

We are here chiefly concerned with the significance of plasma cells in adenoid tissue. This tissue has of course been chiefly studied in the follicles of lymph-nodes, where as has been said plasma cells are normally present in considerable numbers. As is well known adenoid tissue is the seat of the exchange of materials between the blood and the lymph. It has been shown that the lymph contains specific substances that do not exist in arterial and venous blood. Many of the katabolic products poured out of the tissues into the lymph-stream if directly reabsorbed into the blood would exercise a toxic action. These products are rendered innocuous and even beneficial to the organism by the specific activity of the lymph-nodes through which they pass before

5. Pappenheim, Folia Haemat., 1907, iv, 208.
6. Schaffer: Centralbl. f. allg. Path. u. path. Anat., 1909, xx, 1019.
7. Pirone: Folia Haemat., 1909, vii, 342.
8. Joannovics: Centralbl. f. allg. Path. u. path. Anat., 1909, xx, 1022.
9. Joannovics: Centralbl. f. allg. Path. u. path. Anat., 1909, xx, 1021.
10. Loewitz: Centralbl. f. allg. Path. u. path. Anat., xx, 1030.

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reentering the blood.[11] They are there destroyed and modified in the adenoid tissue. It would appear therefore that adenoid tissue has a more important function than that of filters to arrest or retard the entrance into the blood of mechanical impurities, be they particles of dust or pathogenic organisms. One of their physiologic functions is to destroy the toxins of tissue metabolism.

What part the lymphocyte and its derivative the plasma cell takes in this function we do not know. We do know that as the toxins increase—so also do these cells. Luciani believes that the destruction is a direct consequence of the metabolism of the lymphocytes accumulated there in large quantities. The results of various investigators support the view that the lymphocytes are actively engaged and that in the battle plasma cell formation occurs and as a sequence many plasma cells degenerate. In the tonsil plasma cells are normally present, but their presence is no more an indication of chronic local disease than their presence in lymph-nodes. On the other hand it would be a sign of disease or at any rate of a non-functionating organ were they absent.

The tonsils I am here concerned with have been hypertrophic and have been obtained from children and young adults. In all the adenoid tissue was abundant and both lymphocytes and plasma cells were in excess. In many cases increase of the plasma cells was out of all proportion to the increase of lymphocytes. This increase indicated that the lymphocytes are here more actively engaged and that some injurious body is present in excess. Does this local increase in number of plasma cells give any indication as to the source of the irritant? We may presume that the irritant may come from the crypts or through the lymph-channels; may come from focal disease or from some distant katabolic process.

In most of the specimens of hypertrophied tonsils plasma cells are more abundant near the crypts. But they are not confined to the subepithelial region bounding the crypts. They can be found in the follicle, in the connective tissue between the follicles and in the deeper parts of the tonsil. Davis says that he has been unable to find plasma cells in the follicles.

I cannot agree with this. Both in the center and toward the periphery of the follicle I have seen typical plasma cells in addition to the larger cells which Schridde has called lymphoblastic plasma cells. In what appeared macroscopically to be a perfectly normal tonsil of a monkey, plasma cells were more abundant in the deeper part of the tonsil both in the follicle and connective tissue. In some tonsils the plasma cells adjoining the crypts appear to be more abundant where Stohr's phenomenon is taking place. From the sections I have examined there is evidence that certainly not all of the irritants that stimulated the plasma cell formation have entered from the crypts. There is evidence that irritants may come through the lymph-stream from extratonsillar areas. But it matters not how or from where the irritant comes the plasma cells are there to meet it. In the tonsil the plasma cells indicate not so much a diseased organ as an organ that is reacting to disease. Their localization indicates not only that there is absorption of toxins from the crypts but that there are toxins coming from other sources. Their early occurrence is no argument for early removal but rather for the putting right of any faulty metabolism which has caused their increase. It calls for less concentration and thought on a narrow field but a wider range of view. By doing so we shall have advanced preventive medicine and added to the well-being of our patients.

The presence of plasma cells, instead of showing that the tonsil ought thereby to be regarded as a source of danger, would rather indicate an organ which is striving to preserve the body from disease. Their presence in excess certainly indicates that something is wrong, but not necessarily in the organ itself. The tonsil is diseased, not because plasma cells are present, but because they are no longer able to cope with the toxins pouring in.

The important function of the tonsils is to protect the body from poisons absorbed from the pharynx; probably also as Metchnikoff[12] believes to pour into the pharynx large numbers of lymphocytes which act as defenses against organisms in the pharynx. If they are diseased and non-functionating they are worse than useless because they allow the passage of these poisons. I can well imagine that their removal may cause the lymph-stream to be diverted to more active and better functionating tissue.

Of course we have diseased tonsils just as we have diseased lymph-nodes. Of course we have to enucleate tonsils just as we have to enucleate lymph-nodes. I am not advocating the preservation of a diseased organ. I am pleading for a scientific basis for our knowledge when the tonsil is diseased. I am pleading for a recognition of its function and a more just conception of how a faulty metabolism here—from its size, its position and its anatomic structure—must have a far-reaching effect. The duty of the laryngologist is not that of a mechanic to remove the diseased organ. He should strive to prevent the organ from becoming diseased; he should be prepared to correct the faulty metabolism which may have led to the disease. The objection to specialism—that its view of disease is too circumscribed—can well be urged in regard to our attitude in tonsillar treatment.

In conclusion I would sum up my position thus: Plasma cells are derived from lymphocytes and are engaged in removing and utilizing cell material which has broken down. If it be pathologic to destroy albuminous bodies and toxins arising from katabolic processes—and possibly also of bacterial origin—then plasma cells are pathologic. They are not degenerated cells but cells actively engaged in combating the toxins which pass through adenoid tissue. Their presence instead of showing that the tonsil is diseased indicates that it is functionally active. Their presence in excess shows that we have some focus of disease but not necessarily a local one.

104 South Michigan Avenue.

11. Luciani: Physiology, translated by Welby, London, 1911, 1, 534.

12. Metchnikoff: Immunity in Infective Diseases, p. 429.

Beware of Conclusions Drawn from Picked Cases.—I need hardly warn you against being misled by those who choose particular instances to prove their arguments. . . . You may have heard the story of the philosopher who was taken to see the temple of Neptune. Around the walls were the pictures of those who had made dangerous voyages in ships, like those of St. Paul, and naturally they were glad whenever they touched land again, and their votive offerings were hung in the temple of Neptune. The philosopher was asked to gaze on the pictures and acknowledge the goodness of the sea-god, the preserver of the givers. But he said, "Now show me the pictures of those who went to sea and did not come back." So when wonderful cures are told, ask about those who were not cured.—C. B. Lockwood in *Clin. Jour.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 DEARBORN AVENUE . . . CHICAGO, ILL.

Cable Address . . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

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SATURDAY, AUGUST 2, 1913

THE CHANGING THEORIES OF DIABETES

The treatment of diabetes in recent years has been kept in close harmony with the prevailing theory of the immediate cause of its symptoms. It is agreed among all who have first-hand knowledge of the disease that the glycosuria is due to an overloading of the blood with sugar. As we have previously pointed out,[1] the hyperglycemia is the uppermost fact which establishes the abnormal metabolism of diabetes. How the overloading of the organism with sugar comes about is, of course, a fundamental question. The practice in the direction of restricting the intake of carbohydrate has been based on the belief in the inability of the diabetic organism to use sugar in the normal manner; and there is no dearth of evidence to support the current assumption. Of late, however, another theory has begun to be spread about in this country; and since it bears the advocacy of one of the best-known investigators and writers on the subject, von Noorden of Vienna, it is certain to find a favorably disposed audience. The view is now promulgated that the hyperglycemia of diabetes does not arise from a disturbance in the power of the organism to destroy sugar, but rather to the overproduction of sugar. We are told that there exists an abnormally increased "mobilization" of sugar, whether from glycogen or from some other substance, together with an increased production of sugar from other sources—proteins and perhaps fat.

The logic of such a situation, if it were correctly presented in these views of von Noorden, Kraus and their followers, would be to call seriously into question the appropriateness of the "strict" carbohydrate-free diet which is now so successfully employed in many cases. The aim of this mode of dietotherapy is, of course, to spare a disturbed function from undue activity and give an opportunity for partial physiologic recuperation. Even von Noorden, however, is not ready to give up the tried and tested method of limiting carbohydrate ingestion. He therefore invents the ingenious hypothesis that sugar is one of the foremost stimulants to the mobilization process—hence the caution to be exercised in its use. The purveyors of certain types of diabetic foods, notably the objectionable so-called "gluten" flours, have been quick to see the loophole in the argument through which they can admit the alleged justification for not making their products strictly carbohydrate-free.

Graham Lusk has called the attention of American readers to the vigorous protest which has been raised against the "newer opinions" by Minkowski,[2] himself a preeminent investigator in this field and widely known for his classic work on experimental pancreatic diabetes. He points out very properly that the newly heralded hypothesis of an undisturbed utilization of sugar is not in accord with the opinions of recent years in relation to diabetic acidosis—with the claims that the appearance of acetone, diacetic acid, and beta-oxybutyric acid is caused by insufficient combustion of carbohydrate. There is a grave danger that the "carbohydrate" treatments of diabetes—with oatmeal, potato, etc.—which are admittedly not without some inexplicable merit in selected cases, may gain a vogue out of all proportion to the claims which their empirical use at present can justify. Minkowski remarks that perhaps the greatest value of the oatmeal and similar treatments lies in the fact that through them the importance of reducing the protein in the diet has become known to many physicians.

The amino-acids derived from proteins can unquestionably give rise to sugar. We believe, however, that the assumption of the production of sugar from fat in diabetes is untenable and undemonstrated. In these fundamental facts lies the oft-repeated cue to proper treatment. In the great majority of cases we entirely agree with Minkowski that the most desirable treatment consists, first, in a reduction of the carbohydrate; second, in a compensatory increase in the fat ration; third, in a moderation of protein intake, and fourth, in caution against muscular overexertion. These are the dicta taught by theory and carefully controlled experience alike. "Theoretical ideas," says Minkowski, "give us a viewpoint from which to survey our experience in practice. Each change of viewpoint allows new phases to come to the front and retires those from our vision which formerly had seemed most important in our eyes." It behooves us to proceed cautiously and with due critique in the abandonment of an old theory or the substitution of a new one, lest we hastily introduce into therapy some new fashion that does not deserve to enjoy popularity.

1. The Sugar Content of Human Blood, editorial THE JOURNAL A. M. A., April 19, 1913, p. 1228.

2. Minkowski, O.: The Newer Opinions Concerning Diabetes Mellitus, Translated by Graham Lusk, Med. Rec., Feb. 1, 1913.

THE OXYGEN CONTENT OF THE BLOOD IN LOBAR PNEUMONIA

Butterfield and Peabody[1] found that when pneumococci are grown (outside of the body) in blood or in solutions of hemoglobin, there results a lowering in the power to combine with oxygen due apparently to the formation of methemoglobin.

1. Butterfield and Peabody: The Action of the Pneumococcus on Blood, Jour. Exper. Med., 1913, xvii, 587.

Following up these results, Peabody[2] injected rabbits with very large doses of pneumococci so as to produce a rapid and intense bacteriemia. During the course of this infection he found the oxygen-combining power of the blood to fall progressively until death took place, and at the same time an even more marked fall in the content of oxygen of the arterial blood. These changes in the blood, which are quite analogous to those that occur when the pneumococcus is grown on blood in the test-tube, were found to be due to the change of hemoglobin into methemoglobin.

Peabody[3] now undertook to study the oxygen content of the blood in lobar pneumonia, in which one naturally would expect disturbances in gas exchange because of the involvement of the lungs and, in view of the results of the experiments just mentioned, changes in the hemoglobin molecule also. Peabody finds, from a thorough study of the blood in twenty-five cases of lobar pneumonia, that in uncomplicated cases the oxygen content of the blood as a rule remains within normal limits. Here the decrease in the respiratory surface is compensated for fully, but occasionally (as seen by Peabody in two cases) the oxygen may be lower and the carbon dioxid higher than normal, indicating an interference with the respiratory exchange of gases. In the terminal stages of fatal cases there occurs frequently a progressive diminution in oxygen content in the blood associated with a simultaneous loss in power to combine with oxygen. Peabody found these changes in cases of profound pneumococcemia, and they no doubt depend on the formation of methemoglobin as observed in the test-tube experiments and in rabbit pneumococcemia. It is altogether reasonable to regard this change in the hemoglobin molecule, by virtue of which it no longer readily takes up and gives off oxygen, as a factor of importance in the causation of death in many cases of pneumonia. The results of these studies form a distinct addition to our knowledge of the changes that may occur in pneumococcus infection.

THE PREVENTION OF TUBERCULOUS MENINGITIS

Recently the clinical and other features of tuberculous meningitis, including the preexistent conditions in the body and also other factors bearing on the development of this fatal and dreaded form of tuberculosis, have been studied anew in a very thorough manner by Herbert Koch on the basis of material in von Pirquet's clinic for diseases of children in the University of Vienna.[1] Because of the importance of the problems involved, it may be worth while to review briefly Koch's observations on the conditions under which the disease develops.

These observations include 306 cases occurring during the years 1903 to 1911.

The disease affected the two sexes in nearly equal proportions. Any definite indications that family predisposition or heredity plays a dominant rôle were not obtained. Of the acute infectious diseases, measles and then whooping-cough seemed to have favored the development of tuberculous meningitis—measles to a much larger extent than whooping-cough. In a few cases trauma appeared to have excited the outbreak. Clinically demonstrable tuberculosis elsewhere was observed in forty-nine cases, and in practically all cases that were examined thoroughly after death an active primary focus with corresponding invasion of the lymph-nodes was found in the lungs. A definite primary intestinal focus was not observed. Koch's studies warrant the conclusion that tuberculous meningitis does not develop from a focus of tuberculosis that has become calcified.

It is significant that most cases occur during the months from January to June. This might be interpreted as the result of the depressing influences of the winter months and of the confinement indoors during that time. A prominent feature of tuberculous meningitis is the frequency with which it occurs in early childhood. In this respect Koch's figures confirm in a striking manner previous observations. Thus 68 per cent. of his cases occurred in the first quadrennial period and only 3.7 per cent. in the quadrennium ending at the age of 14. Of one hundred cases in children reports of which were collected by Still, thirteen occurred in the first year, seventy from the second to the fifth, and seventeen from the fifth to the tenth. When one considers that tuberculous infection is many times more common in the latter part of childhood than in the earlier, this predilection of tuberculous meningitis for the first four or five years of life becomes still more striking. According to Monti and Hamburger the percentage of tuberculosis in the first four years of life in Vienna is 15, while in the years from 11 to 14 it is 94. From these figures and his own results with respect to the frequency of tuberculous meningitis in different periods of childhood (years 0 to 14), Koch calculates that in the tuberculous, acute meningeal tuberculosis is 116 times more frequent in the first four years than in the last four years of childhood. The largest number of cases by far occur in the second year. How is this explained? Now tuberculous infection is much more common in the second year than in the first, but the relative percentage of deaths from tuberculous meningitis is greater in the second year than in the first; this is true even in larger measure of the third year. Without attempting to discuss the complex underlying conditions, we may say then that tuberculous meningitis does not acquire such dominance in the final stage of tuberculosis in the first as in the immediately succeeding years.

Three facts of special significance emerge from this review, namely, the predisposing influence of measles and of the winter and spring months on the develop-

2. Peabody: The Oxygen Content of the Blood in Rabbits Infected with Pneumococcus, Jour. Exper. Med., 1913, xvii, 1.
3. Peabody: The Oxygen Content of the Blood in Lobar Pneumonia, Jour. Exper. Med., 1913, xviii, 7.
1. Koch, Herbert: Ueber Meningitis tuberculosa, Ztschr. f. Kinderheilk., 1913, vi, 263; Entstehungsbedingungen der Meningitis tuberculosa, Ibid., v, 355.

ment of tuberculous meningitis and, thirdly, the predilection of this manifestation of tuberculosis for the early years of childhood. At present prevention is our only weapon against tuberculous meningitis. There is no cure. The facts mentioned teach us the necessity of lessening as much as possible the opportunities for tuberculous infection of young children and of increasing their resistance; secondly, the importance of protection from measles, and, thirdly, the value of doing what can be done by means of good food and fresh air to keep up the general health and vigor during the cold months especially. Finally, we come to the great question how to increase directly the resistance of children to tuberculous infection so that they can withstand better the tendency of the bacilli to the overwhelming infection of which tuberculous meningitis is a manifestation. Will protective inoculation do it?

COLD AND BACTERIA

That cold greatly retards the action of micro-organisms and inhibits their multiplication is a familiar fact which finds numerous applications in the household and industrial practices of every-day life. Further than this, moreover, there is a widely disseminated belief that a freezing temperature not only checks the development of bacteria but also actually reduces their number. The destruction of these lower forms of life by the action of cold is evidenced in numerous experimental researches in which bacterial counts have been made after exposure of the mediums containing them to freezing temperatures or lower; and the belief that the number of bacteria may be lessened by such conditions is supported by the fact that ice, and especially old ice, even when formed from polluted sources, is very low in bacterial life.

Dr. Keith of the Massachusetts Institute of Technology has pointed out certain apparent contradictions between fact and theory in relation to the effect of cold on microbial forms.[1] Various frozen foods, such as ice-cream, frozen meat and frozen milk, even when kept for a long time, often contain large numbers of living bacteria. This fact has become particularly conspicuous in the case of frozen eggs, which have been the source of considerable controversy among food authorities and commercial interests in the past year. Even after exposure of many months to a temperature as low as 0 F., such eggs may still contain millions of bacteria. It is evident, therefore, that low temperatures alone do not destroy bacteria.

The investigations which Dr. Keith has undertaken to clear up these apparent discrepancies point to a clear-cut explanation. When bacteria like the *Bacillus coli* are frozen in water as solid ice and held at —20 C. (—4 F.), only a small number remain alive at the end of a few days, and storage of a few weeks results in complete destruction. When the same organisms are frozen in water not solidly, but as a water-ice or sherbet is frozen, and are held in this condition at —20 C., a large percentage remain alive for many months. When the organisms are frozen in pure or diluted milk the death-rate increases with the dilution, the largest numbers surviving in the undiluted milk. It seems likely, therefore, as Keith suggests, that water-bearing food materials freeze in such a way that most of the bacteria present are extruded from the water crystals with the other non-aqueous matters (including air), and lie among these without being crushed or otherwise injured; while in more purely watery suspensions, and above all in water itself, in which the whole mass becomes solidly crystalline, the bacteria have no similar refuge. They are perhaps caught and ultimately mechanically destroyed between the growing crystals. This theory, then, would explain the absence of live bacteria in clear ice, their comparative abundance in "snow" ice and "bubbly" ice, and also the fact that the more aqueous food materials when frozen contain the fewest, and the least watery the most, living bacteria.

If the foregoing contentions are valid, frozen food-materials may be assumed to favor the continued existence of bacteria at low temperatures, not because the ice-cream, eggs or milk contribute nutrient material, but apparently because they furnish physical conditions somehow protective of the bacteria.

1. Keith, S. C., Jr.: Factors Influencing the Survival of Bacteria at Temperatures in the Vicinity of the Freezing-Point of Water, Science, June 6, 1913, p. 877.

UNRECOGNIZED INTERRELATIONS BETWEEN THE INTESTINES AND THE STOMACH

In searching for the cause of certain types of intestinal digestive disorders it is common to look to gastric disturbances as the primary source of the difficulty. There are, for example, familiar forms of intestinal dyspepsias (so-called) which are known to attend conditions of achylia or gastric hypacidity. The failure of the ingested food to receive a suitable preliminary treatment in the stomach, coupled with the lack of sufficient secreted hydrochloric acid to exert the usual wholesome antiseptic action on the micro-organisms that tend to get a start in the upper reservoir of the alimentary tract, spells trouble for the subsequent course of the food. Pronounced putrefaction in the intestine, and attendant diarrheas are common clinical manifestations of the situation just described.

How about the reverse conditions? Can an "upset" in the intestinal processes become the primary source of disorder, rather than the sequence of a disturbed gastric digestion? Can the functions of the stomach be impaired as the result of abnormal digestive conditions which have developed first in the succeeding portions of the alimentary tract? Experiments conducted in Cohnheim's laboratory at Heidelberg have offered some trenchant suggestions in reply to such questions. By making use of animals with fistulas surgically estab-

lished at various regions of the gastro-intestinal tract it has been possible to initiate pathologic disturbances in appropriately selected regions and to note the behavior of other portions of the digestive tube in respect to motility or secretory power. The technic whereby so-called polyfistula animals have been prepared — animals with fistulas of the stomach, duodenum, ileum, etc., simultaneously established — has given a great impetus to the study of alimentary physiology, precisely as has the introduction of the method of observation by the Roentgen rays. It has been shown in suitable subjects that when normal products of gastric digestion are introduced into the small intestine, a normal sequence of events ensues in the stomach in respect to the secretion of gastric juice and the discharge of its contents. When, however, disturbances liable to occur in everyday human experiences are imitated — when partly fermented and putrid food mixtures are introduced directly into the intestine, the subsequent response of the gastric functions is surprisingly altered.[1] A great delay in the discharge of test-meal contents from the stomach may now occur. Mixtures which ordinarily leave the stomach in half an hour when "normal" contents are present in the bowel below, may be delayed in their discharge as much as two hours. The usual secretory behavior of the stomach may also be altered decidedly. Here, then, are illustrations of the interference with the normal behavior of a healthy stomach by the initiation of fermentative conditions in another part of the alimentary tract. Were a gastro-enterologist to examine the stomach at such periods by the usual functional tests he would be more than likely to note abnormality of the gastric activities without discovering that the primary cause was situated in a more remote region of the digestive tube. In other words, these animal experiments teach us to keep in mind the possibility of gastric symptoms which are purely secondary to fermentative disturbances in the bowel, upsets of the sort all too familiar as intestinal fermentative dyspepsias and characterized in particular by the imperfect digestion of starch. As the German investigator has expressed it, we are dealing with "enterogenous" gastric disturbances.

Incidentally we may refer to other observations which emphasize the reverse interrelation of stomach and intestines under conditions that are strictly normal rather than pathologic. It has been noted[2] that cane-sugar, a common component of the daily diet, is without immediate influence on the stomach in respect to secretion or motility; but when sugar is present in abundance in the intestine it may delay the discharge of contents from the stomach. This is due to the fact that sugar with its tendency to retain water for its solution delays or prolongs the absorption of other substances from the bowel. The action of hydrochloric acid, with its well-known influence of inhibiting the opening of the pylorus when it is present on the duodenal side of the sphincter, is thereby prolonged. From the facts cited, Thomsen has evolved some considerations in respect to our dietary habits. He remarks that the meal is frequently concluded with sweets or pastry which readily yields sugar. It is suggested that this is the outcome of an instinctive desire to delay the ultimate emptying of the stomach as long as possible. An empty stomach furnishes the opportunity for the sensation of hunger. The presence of sugar late in the meal, we are now led to believe, insures a longer period of gastric digestion because of the indirect influence which it exerts from the intestine prior to its final absorption. Can it be that herein lies a real reason for the sweetmeats with which a course meal is so frequently concluded?

1. Baumstark, R.: Ueber Hervorrufung von Magenstörungen vom Darm aus, Ztschr. f. physiol. Chem., 1913, lxxxiv, 437.
2. Thomsen, E.: Ueber die Einwirkung des Zuckers auf die Verdauung, Ztschr. f. physiol. Chem., 1913, lxxxiv, 425.

Current Comment

OVERLOOKING THE FIRST ESSENTIAL

New medical practice acts have recently been secured in Arizona and California. Like that secured a year or two ago by Washington, these provide for different forms of certificates for physicians, for osteopaths and for "other systems of healing," and likewise provide a different educational standard for each. While physicians are required to have completed a course of at least four years in a medical school holding the requirement of the Association of American Medical Colleges, an osteopath is not required to have had any fixed amount of preliminary education and needs to have completed only two or three courses in an osteopathic college, while practitioners of "other systems of healing" need only to present a diploma from any school of no specified standards or length of time. This is a distinct discrimination against the physicians and allows illiterate and untrained "doctors" to practice the healing art. How long are our legislatures going to overlook the fact that the first essential in the practice of medicine is the diagnosis, no matter what "system" or method of "treatment" is to be employed? Can they not see that unless the "doctor" knows what disorder he is attempting to alleviate, any "treatment" is mere guesswork and as apt to do harm as good? The practice of medicine is not the giving or the withholding of drugs but the art of using for the alleviation of disease whatever form of treatment that disease demands. To apply this treatment the doctor must first know what disease he has to treat. It is clear, therefore, that all who attempt to treat human ailments should have a training in the fundamental medical science. The "healer" as well as the physician needs to be educated sufficiently well not only so that he may be able to recognize disease but also so that all the modern methods of treatment may be at his disposal and that he may select the form most likely to

result in a cure. With the inferior training now legally permitted by the practice acts of the states named, how is the "healer" to know whether drugs should be given or withheld? With his inferior training how is he to know whether his own peculiar method of treatment is the best one to be used or whether it is the very form which should be avoided? How long is the art of healing—the true practice of medicine—going to be so misinterpreted? Just so long will the true physicians be unfairly discriminated against; just so long will education and training be placed at a discount and just so long will a sick and helpless humanity be unprotected from the ignorant and from that class of impostors who are always ready to take advantage of loopholes in laws which are intended to be a safeguard against them! Let there be one educational standard fixed with which every practitioner of the healing art is required to comply. Then let him use whatever treatment his educated judgment may indicate.

POWER OF A CITY TO DEMAND PURE MILK

The right of a city to demand the tuberculin testing of cows from which its milk-supply comes, and to establish such other regulations as will insure that the identity of the source of the milk may be known, has been upheld by the highest court. In the medicolegal department of this issue we print an abstract of the Supreme Court decision sustaining the Milwaukee milk ordinance. The Supreme Court holds with the state court that the ordinance is not discriminatory, that it is a reasonable requirement, and that the court cannot question the purpose and the necessity for it. The police power of the state must be declared adequate to such a desired purpose; and the city ordinance, in the section providing for the destruction of milk not conforming to its requirements, is not an arbitrary and unreasonable deprivation of property in a wholesome food, but a regulation having the purpose of and found to be necessary for the protection of the public health.

TYPHOID IN AUSTRALASIA

It is not alone in European countries and the United States that the typhoid rate is being rapidly reduced. Civilized countries everywhere seem to be experiencing a progressive and remarkable decline in this serious and wide-spread disease. Purdy[1] has recently dwelt with emphasis on the reduction of typhoid in Australasia in the past thirty years. In the cities of Australia the typhoid death-rate (deaths per hundred thousand) fell in Sydney from 51.3 in 1885-1890 to 13.2 in 1901-1910; in Melbourne from 83.8 in 1885-1890 to 11 in 1901-1910, and in Brisbane from 30.6 in 1895-1900 to 17.6 in 1901-1910. In Hobart, the capital of Tasmania, the rate averaged 100.5 in 1885-1890, but had fallen to 24.7 in 1901-1910. In New Zealand it had diminished to 6.6 for the decade ending 1910, a rate that compares favorably with the typhoid death-rate in any European country. Purdy, in the article referred to, seems inclined to attribute this great typhoid decrease chiefly to the introduction of modern sewerage systems, and cites many instances of outbreaks apparently due to fly infection. Milk infected by flies or by the agency of carriers seems also to have played a large part in causing typhoid in Australasia.

1 Purdy: Med. Officer, June 7, 1913, p. 269.

CLINICAL EFFECTS OF "NATURAL" AND "SYNTHETIC" SODIUM SALICYLATE

In the report of a cooperative investigation of the clinical effects of "natural" and "synthetic" sodium salicylate, edited by Dr. Hewlett, which appears in this issue, two deaths are mentioned under the administration of the synthetic salt. After the article had been put in type, the death was reported of a patient with acute infectious arthritis, who received 400 grains of sodium salicylate, one-half being of the natural and one-half of the synthetic salt. The reports of all these cases are included in the reprints of the article.

Medical News

ALABAMA

Antituberculosis Camp Started.—The United Charities of Bessemer have obtained a cottage in a grove and have started an antituberculosis camp.

Personal.—Dr. George T. McWhorter, Riverton, is reported to be seriously ill at his home with cerebral hemorrhage.——Dr. J. H. Nolan has been appointed sanitary engineer for the Tennessee Coal and Iron Company and has been placed in charge of the company's camps in the Birmingham district.——Dr. James C. Gillespie, New Decatur, is reported to be seriously ill.——Dr. Carney G. Laslie, Montgomery, has returned from Europe.——Dr. James B. Hatchette, Marion, has been made a director of the Great Southern Life Insurance Company.——Dr. Robert M. Davis, Florence, has been placed in charge of the Public Health Campaign inaugurated by Dr. W. H. Sanders, state health officer.

ARKANSAS

New Officers.—Fourth Councilor District Medical Society at Lake Village: president, Dr. E. E. Barlow; secretary-treasurer, Dr. W. T. Lowe, Pine Bluff.

Personal.—Dr. Leonard R. Ellis, Hot Springs, has been appointed superintendent of the Government Reservation, vice Major Hallock, deceased.——The building owned by Dr. A. M. Hathcock, Harrison, was burned recently.——Dr. H. H. Smiley, Texarkana, has returned from Europe.

CALIFORNIA

Appropriations for Southern California.—The State Board of Control has made the following appropriations to Southern California institutions: Southern California Hospital, Patton, $845,015; New Southern California Hospital, $250,000, and Los Angeles Medical College, $45,000.

Hospital News.—The main building of the Marin County Hospital on the county property, five miles north of San Rafael, was seriously damaged by fire, July 13. One inmate received slight burns during removal.——The new hospital for Pomona, erected at a cost of $50,000, is almost ready for occupancy. The equipment is already being installed.——Bids have been asked for the construction of a reinforced concrete hospital building on the county farm, near Santa Anna. The building is to be 48x90 feet, two stories and a basement with a solarium on the roof.

GEORGIA

New Officers.—First District Medical Society of Georgia at Savannah and Tybee, July 21: president, Dr. John L. Kirkendol, Millen; secretary-treasurer, Dr. Charles Usher, Savannah (reelected). The next meeting will be held in Waynesboro.

Personal.—Dr. W. C. Lyle has been reappointed lieutenant-colonel and aide-de-camp on the staff of Governor Slayton.——Drs. J. P. Hall and J. G. Wilkins have been reappointed

city physicians of Atlanta and Dr. W. T. Brown has been elected a member of the Grady Hospital Board, vice Dr. George S. Tigner, resigned.——Dr. J. B. Kennedy has been reelected health officer and Dr. Claude A. Smith city bacteriologist of Atlanta.——Dr. B. E. Pearce, Atlanta, dislocated his shoulder at St. Simon's Island, July 6.——Dr. S. A. Visanska has returned to Atlanta, recovered, after several months' absence in search of health.

ILLINOIS

New Officers.—Ogle County Medical Society at Rochelle, July 16: president, Dr. R. E. Stevens, Rochelle; secretary-treasurer, Dr. J. T. Kretsinger, Leaf River.

Personal.—Dr. Patrick M. Kelley, Litchfield, has been appointed superintendent of the Kankakee State Hospital, vice Dr. Sidney D. Wilgus, resigned.——Dr. J. A. Pratt, Aurora, sailed for Europe, July 21.——Dr. Stewart C. Thompson, Byron, was painfully injured in a collision between his automobile and a St. Paul freight train, July 23, in Byron.——Dr. Charles Zorger, Bloomington, is ill with nephritis at the home of his brother in Champaign.——Dr. W. L. Athon, formerly superintendent of the Anna State Hospital, will devote his entire time to the Marshall City Bank, of which he is president.——Dr. and Mrs. Charles J. Swan, Evanston, sailed for Europe, July 24.——Dr. William Barnes, Decatur, was operated on at Mercy Hospital, Chicago, July 22, and is said to be doing well.——Dr. John J. Grant, after three years in hospital work in New York, has returned to Freeport and will locate there.——Dr. R. S. Cowan, Girard, is reported to be seriously ill at his home.——Dr. John E. Allaben, Rockford, sailed for Europe, July 23.

Chicago

Dispensary Opened.—Maimonides Hospital, 1519 South California Avenue, opened its free dispensary to the public, July 28. It is said to be the only orthodox Jewish institution of its kind in the West.

Personal.—Dr. John J. Killeen and Dr. and Mrs. Cassius C. Rogers have sailed for Europe.——Dr. and Mrs. David Monash have returned from abroad.——Dr. Maximilian Herzog has been appointed dean of Bennett Medical College and head of the department of pathology, bacteriology and hygiene; Dr. Charles H. Miller has been made head of the department of therapeutics and Dr. Ulysses J. Grim, professor of otology and laryngology.

IOWA

New Officers.—Iowa Union Medical Society at Cedar Rapids, July 8: president, Dr. F. G. Murray; secretary, Dr. C. S. Krause, both of Cedar Rapids.

New State Board.—The new State Board of Health began its official duties July 5. Dr. G. H. Sumner was reappointed secretary. The new board consists of Lafe Higgins, Des Moines, and Drs. H. A. Dittmer, Manchester, J. L. Tamisien, Missouri Valley; G. F. Severs, Centerville, and Walter L. Bierring, Des Moines.

LOUISIANA

New Buildings for State Hospital.—Two new buildings for the criminal insane are being erected by the inmates of the State Insane Hospital, Jackson.

Object to Hospital.—Twenty-five property owners and residents of Carrollton have won their fight against the proposed establishment of an antituberculosis hospital in that place.

Personal.—Dr. C. D. Wilkins, superintendent-elect of the Charity Hospital, recently visited New Orleans to consult with the hospital authorities regarding the details of the management of the institution of which he is to take charge in October.——Dr. S. Y. Alexander, Shreveport, has gone to Baltimore for a special course of fourteen months at Johns Hopkins.——Dr. Charles McVea, Baton Rouge, for several years physician to the Louisiana State University, has resigned.——Dr. and Mrs. Charles W. Duvall, New Orleans, have sailed for Europe.

MARYLAND

Nurses' Home Presented.—A nurses' home has been presented to the Frederick City Hospital by Mrs. Georgiana Houck Simmons.

Hospital Nearly Ready.—The Frostburg Miners' Hospital, for which the state has appropriated $25,000, is nearing completion and will be ready for occupancy September 1. The site was donated by the city.

Joint Society Meeting.—The Washington County Medical Society was entertained at dinner by the Frederick County Medical Society, July 24. The visitors came in automobiles and spent the day on the mountain. The principal address of the meeting was delivered by Dr. Hiram Woods, Baltimore, on "Preventable Blindness."

Baltimore

Personal.—Drs. H. O. Reik, Walter A. Baetjer, John Ruhräh and W. L. Moss, and Dr. and Mrs. W. S. Thayer have sailed for Europe.——Dr. E. H. Rowe has returned from abroad.——Dr. E. L. Whiting has been appointed associate professor of physiological chemistry, pharmacy and clinical pathology and Dr. H. R. Spencer, associate professor of pathology and bacteriology in the University of Maryland.——The Franklin Institute, Philadelphia, has conferred on Harry C. Jones, professor of physical chemistry in Johns Hopkins University, the Edward Longstreet medal of merit for his article on "The Nature of Solution."

MASSACHUSETTS

Personal.—Drs. Edward E. Jack, F. L. Jack, J. L. Goodale and Dr. and Mrs. H. H. Germain, Boston, and Drs. Edmund H. Stephens and Fred J. Jouett, Cambridge, sailed for Europe, July 23.——Dr. George L. Richards, Fall River, was operated on at Truesdale Hospital, New Bedford, July 15, and is reported to be doing well.

More Beds Needed for Consumptives.—Dr. Simon Cox, superintendent of the Mattapan Hospital, states that the hospital should be equipped with at least 600 beds. The total number of beds now available, including 100 outside the institution, is 350, while there are no less than 1,200 cases of advanced tuberculosis without hospital facilities of any kind. The Mattapan Hospital has at present a waiting list of more than 200. A children's building has just been completed at the institution which will be ready to receive patients in September.

MINNESOTA

Insane Patients Transferred.—A number of insane male patients have been transferred from the St. Peter State Hospital to the State Hospital at Hastings.

New Officers.—Wabasha County Medical Society, forty-fifth annual meeting at Wabasha, July 15: president, Dr. Emery H. Bayley; secretary-treasurer, Dr. William F. Wilson, both of Lake City.

New Hospital for St. Paul.—At the annual meeting of the directors of the St. John's German Lutheran Hospital, St. Paul, it was decided to erect a new building to occupy ground adjoining the present structure and to cost $75,000.

Personal.—Dr. J. Clark Stewart, Minneapolis, who has been seriously ill at St. Agnes' Hospital, Baltimore, is reported to be much improved.——Dr. Arthur C. Strachauer, Minneapolis, has gone abroad.——Dr. H. M. Bracken, secretary of the State Board of Health, has been delegated to represent the Royal Sanitary Institute, London, England, at the School Hygiene Conference in Buffalo.

MISSOURI

Charges Against Hospital Unfounded.—Dr. Franklin E. Murphy, chairman of the committee appointed to investigate conditions of the Kansas City Hospital, which resulted in the recent walk-out of nurses, reports that the charges of mismanagement have been exaggerated.

Personal.—Dr. Jefferson D. Griffith has resigned as consulting surgeon for the Kansas City Hospital. Dr. Franklin E. Murphy has succeeded Dr. John L. Robinson on the staff, Dr. P. T. Bohan has succeeded Dr. R. T. Sloan and Dr. John H. Outland has succeeded Dr. Jabez N. Jackson.——Dr. J. F. Binnie, Kansas City, who has been seriously ill at Rochester, Minn., is reported to be convalescent.——Dr J. Sherwood Jacoby, Kansas City, has been appointed surgeon for the Missouri, Kansas and Texas System, and is at present traveling examining surgeon for their lines north of Denison, Texas.——Dr. J. E. Logan has resigned from the staff of Kansas City Hospital.——Dr. T. M. Monroe, Laddonia, sustained a fracture of the leg and severe bruises in a collision between his automobile and a passenger train at Laddonia, July 17.

St. Louis

Pasteur Institute Incorporated.—Articles of incorporation for the Pasteur Institute were filed July 10. The institution has a capital stock of $2,000 and the incorporators are Dr. R. B. H. Gradwohl, Roy M. Eilers and William S. Schaumburg. The institute is a branch of the New York Institution and occupies twenty-two rooms in a three-story building on North Garrison Avenue. Dr. L. Whitley is director of the institute and physician of the hospital.

Hospital Notes.—The Missouri Baptist Sanitarium is making an earnest effort to secure subscriptions of $50,000 in order to secure the contingent gift of $100,000 of the late A. D. Brown. Thus far, more than $33,000 has been pledged. ——The trustees' sale of Bethesda Hospital has been postponed.——St. Luke's Hospital has obtained a permit to build a four-story addition at a cost of $97,000 and to make alterations in the present building, amounting to $15,000.——St. Louis women have subscribed $21,000 for the benefit of the St. Louis Maternity Hospital.——Arrangements have been made that hereafter every ambulance summoned by an emergency call in the central district, will be accompanied by a surgeon prepared to give first-aid treatment.

NEW YORK

New Officers.—Lake Keuka Medical Association at Penn Yan, July 17-19: president, Dr. Floyd S. Crego, Buffalo; secretary-treasurer, Dr. C. E. Foster, Penn Yan.

Personal.—Dr. Earl H. King, Saratoga Springs, has succeeded Dr. Lee H. Smith, Buffalo, as a member of the State Board of Medical Examiners.——Dr. John K. Tretton, Rochester, is said to be in a serious condition in Dr. Lee's Hospital as the result of injuries due to the fall of a tree which fell on his automobile, wrecking it.——Dr. Price Lewis, Holland Patent, has resigned as coroner of Oneida County on account of his removal to Montana.——Dr. Irving M. Snow, Buffalo, has sailed for Europe.

New York City

Optometrists Graduate.—Columbia University has just graduated twenty men from the new course in optometry which, at the time of its founding several years ago, was so strenuously opposed by the medical profession. These students will be required to pass a state examination before being licensed to practice optometry. One of the reforms which the optometrists hope to effect is that of preventing cheap stores from selling glasses to those who pick what seems best suited to their taste regardless as to whether the glasses are really suited to the needs of the case.

Examination for Assistant Director of Hygiene.—An examination for applicants for the position of assistant director of public education and hygiene for the schools of New York will be held September 29 at the hall of the Board of Education, Park Avenue and Fifty-Ninth Street. This examination will be open to graduates of medical schools recognized by the Regents of the University of the State of New York and who have had one year of specialized experience in pediatrics. In addition to the written examination, there will be an oral examination in physical diagnosis and also clinical tests.

NORTH CAROLINA

Wholesale Vaccination.—As the result of a development of small-pox in a recent admission to the Morganton State Hospital, the superintendent has caused each of the 1,650 inmates of the institution to be vaccinated.

Malaria Study.—Congressman Small has arranged with the United States Public Health Service to have one of its officials visit eastern North Carolina to study the question of malaria in the most improved, modern methods of scientific investigation. Municipal and county health officials in the eastern counties who desire investigation to be made should communicate promptly with the Surgeon-General, U. S. P. H. S., at Washington.

Personal.—Dr. Clarence Judd, formerly of Cardenas, has returned from New York City, and will practice in Raleigh. ——The following county superintendents of health have been elected: Catawba County, Dr. James R. Campbell, Newton; Halifax County, Dr. I. E. Green, Weldon; Johnson County, Dr. H. H. Utley, Benson.——Dr. Alice E. Johnson, who was recently operated on at the Mercy Hospital, Asheville, is reported to be greatly improved.——Dr. J. R. Irvin, Charlotte, who has been seriously ill at his home, is reported to be convalescent.——Dr. and Mrs. Joseph Howell Way, Waynesville, celebrated the twenty-fifth anniversary of their marriage, July 31.

Hospital Staff Elected.—The following officers of the staff of the Meriwether Hospital have been elected: Dr. Chase P. Ambler, chief of staff; Dr. Eugene B. Glenn, assistant chief of staff; Dr. W. V. Hunnicutt, assistant treasurer and resident physician. The staff of the hospital at present consists of Drs. Eugene B. Glenn and F. Webb Griffith, surgeons; Drs. Chase P. Ambler, Martin L. Stevens and Arthur F. Reeves, general medicine; Dr. Arthur H. Calloway, gastroenterology; Dr. C. W. Brownson, dermatology; Dr. R. S. Carroll, neurology; Drs. E. Reed Russell and R. G. Buckner, ophthalmology, otology, rhinology and laryngology; Dr. Lewis W. Elias, pediatrics, and Dr. W. J. Hunnicutt, resident physician.

PENNSYLVANIA

Off for Europe.—Drs. T. P. Simpson, Beaver Falls, and Walter Lathrop, Hazleton, have sailed for Europe.

New Officers.—Lehigh Valley Medical Society at Buckwood Inn, Shawnee on Delaware, July 17: president, Dr. G. S. Seiberling, Allentown; secretary, Dr. J. W. Luther, Palmerton.

Camp Becomes Borough.—By decree of the Franklin County Court, July 22, Mount Alto, the white pine camp for consumptives, will be made a borough, August 23, and a special election for borough officers has been ordered.

Personal.—Dr. R. R. Huggins, Pittsburgh, sailed for Europe, July 26.——Dr. V. Hummel Fager, Harrisburg, has returned from Europe.——Dr. A. B. Woods, Erie, who was operated on recently for appendicitis, has returned home convalescent. ——The house of Dr. S. C. White, Wilkinsburg, was burned July 16, with a loss of about $7,000.

Philadelphia

Personal.—The following physicians have sailed for Europe: Eugene L. VanSant, Ross Hall Skillern, Robert F. Ridpath, A. H. Gerhard, F. X. Dercum, Charles K. Mills, Paul J. Sartain and T. H. Weisenburg.

Fewer Trolley Accidents.—The report of the Rapid Transit Company for the year ended June 30, 1913, shows that the number of trolley accidents in this city decreased 9 per cent., while the number of passengers carried increased more than 6 per cent.

Tourists Urged to Use Antityphoid Virus.—Dr. Joseph S. Neff, director of public health and charities, has issued a bulletin, urging all persons contemplating vacation visits to places where there is any doubt of the purity of the water to take the antityphoid fever treatment. The Department of Health will supply the family physician with the vaccine or people may be treated at their homes or at the offices of the Bureau of Health in the City Hall by the city's medical inspectors.

Navy Yard Blamed for Lax Guarding of Drugs.—As a result of testimony that hundreds of sailors are becoming drug fiends, because of careless supervision of medical cabinets on board battleships, a coroner's jury rendered a verdict, July 25, in an inquest into the death of a sailor of the *U. S. S. Connecticut*, censuring the government. Martin's death was due to heroin, a bottle of which, marked "government property" was found beside him when he collapsed. The medical staff at the yard has been reduced from sixteen to four medical officers and it is said that the keys of the poison chests sometimes fall into the hands of others than physicians.

Babies' Clinics.—Mrs. Margaret Simons, the trained nurse who conducts the weekly clinics at the Cohochsink School, Fourth and Montgomery Avenue, has announced that there has been a steady gain in the weight of the children under her care and that 90 per cent. of them are in fit physical condition. She is working in connection with the Children's Homeopathic Hospital, the Children's Country Week and the University Settlement and makes daily visits in the nineteenth ward. The Child Hygiene Committee held a clinic in the Italian Mission at Tenth and Kimball Streets, July 16, at which thirty-five small girls (little mothers) were taught how to care for their small charges. Through the efforts of the volunteer workers of the committee, a series of little mothers' leagues have been formed throughout the city.

Fund for Medical School in China.—Dr. J. S. McCracken, president of the University Medical School in Canton, China, sailed July 28, carrying with him more than $30,000, which has been subscribed through the Christian Association of the University of Pennsylvania for new buildings and running expenses of the Canton School. The association will continue to try to raise the rest of the $70,000 needed to build the additions. To increase the efficiency of the medical school, it is planned to erect new buildings at the cost of $68,000, these to contain the executive offices, laboratories, private wards and operating rooms. When these plans are carried out the school will have more than two hundred beds.

TENNESSEE

New Tuberculosis Hospital.—Several local physicians of Nashville have established the Watauga Sanatorium, Ridgetop,

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near Nashville. **The officers of the institution are:** Dr. John A. Witherspoon, consulting physician; Dr. William Litterer, pathologist-in-chief; Dr. W. A. Bryan, surgeon-in-chief; Dr. Giles C. Savage, consulting physician of the eye, ear, nose and throat; Dr. O. N. Bryan, visiting physician; Dr. W. T. Eatherly, roentgenologist; Dr. J. M. King, dermatologist, and Dr. Charles W. Robinson, medical director.

Personal.—Dr. and Mrs. John A. Witherspoon, Nashville, sailed for Europe from Boston, July 23.——Dr. Max Goltman, Memphis, has gone abroad.——Dr. R. M. Murray, Trezevant, suffered a cerebral hemorrhage, recently.——Dr. Samuel W. White, Franklin, is under treatment in the Nashville Hospital for disease of the eye.——Dr. Z. D. Massey, Sevierville, who was operated on recently for appendicitis, is reported to be convalescent.——Dr. A. M. Townsend, Nashville, has accepted the presidency of Roger Williams University.——Dr. C. E. Barnett, Newport, is ill with typhoid fever.

TEXAS

Personal.—Dr. S. H. Moore, Houston, fractured his right arm in an automobile accident, July 22.——Dr. E. S. Chambers, Jr., Annona, is under treatment in the Aiken Hospital for septicemia, from which he has been suffering for more than a year.

Tuberculosis Hospital Opened.—Woodlawn Hospital, the Dallas city and county sanatorium, was opened July 19 for the care of patients who are bone fide residents of the county. The institution has cost $37,000 already and much remains to be done before the advent of cold weather.

GENERAL

Personal.—Major Henry Page, M. C., U. S. Army, has sailed for Europe.——Dr. C. L. Alsberg, chief of the bureau of chemistry of the United States Department of Agriculture, Washington, has been appointed secretary of the Association of Official Agricultural Chemists.

Railway Surgeons' Meeting.—At the sixth annual meeting of the Surgeons' Association of the Buffalo, Rochester and Pittsburgh Company, held in Niagara Falls, N. Y., July 9, Dr. T. T. Mooney, Rochester, was elected president; Dr. J. D. Palmer, Johnsonburg, Pa., vice-president, and Dr. J. G. Flynn, Ridgway, Pa., secretary. Dr. Roswell Park, Buffalo, addressed the association on "Brain Surgery."

Austin Flint Association Meets.—At the semi-annual meeting of the Austin Flint Medical Association held in Mason City, Ia., July 8-9, the following officers were elected: president, Dr. W. F. Cobb, Lyle, Minn.; vice-president, Dr. George Kessel, Cresco, Ia.; secretary, Dr. C. Freeman Starr, Mason City, Ia. (reelected), and treasurer, Dr. W. L. Hearst, Cedar Falls, Ia. (reelected). Fort Dodge was selected as the next place of meeting.

Chattahoochee Valley Physicians' Meeting.—At the thirteenth annual meeting of the Chattahoochee Valley Medical and Surgical Association, held in Montgomery, Ala., July 15-16, West Point, Ga., was selected as the next place of meeting and the following officers were elected: president, Dr. J. M. Poer, West Point, Ga.; vice-presidents, Drs. O. Velpeau Langly, Opelika, Ala., and C. S. Yarbaugh, Auburn, Ala.; secretary-treasurer, Dr. W. J. Love, Opelika, and councilor, Dr. Hugh McCollough, West Point, Ga.

International Association of Medical Museums.—The third triennial meeting of the International Association of Medical Museums will be held in the Museum of the Royal College of Surgeons and the Museum of the Seventeenth International Congress of Medicine, London, August 5-7. The president's address by Prof. A. S. Warthin, Ann Arbor, will be on "Ideals and Functions of the International Association of Medical Museums." On the second day there will be a symposium on replies received to Experience Circular No. 2, and on the third day there will be papers and demonstrations f museum technic.

The International Congress on School Hygiene.—The program and arrangements have been about completed for the Fourth International Congress on School Hygiene, which is to be held in Buffalo, August 25 to 30. An energetic campaign has been conducted by the management to insure the success of the congress. Committees to promote the congress have been formed in thirty-three foreign countries and in forty-five states, and teachers, investigators, physicians, dentists, sanitarians and public spirited citizens from every quarter of the globe have manifested the greatest interest in the congress and the attendance will undoubtedly be large. Over 300 speakers have signified their intention of taking part in the program, and fifteen national associations interested in health problems have arranged special symposiums for the Buffalo meeting, one section of the congress being devoted to such symposiums. In addition to this section, there will be a section on the hygiene of school grounds, building material, equipment and up-keep; a section on hygiene of school administration; a section on hygienic and sanitary supervision of schools. Each of these sections will have a large number of papers covering all the features of school hygiene. Special sessions have been arranged for on such subjects as school feeding, oral hygiene, sex hygiene, mental hygiene, conservation of vision in school children, health supervision of university students, school illumination, relation between physical education and school hygiene, tuberculosis among school children, physical education, college hygiene, and mentally defective children. Each of these special sessions has had its program arranged by associations, committees and individuals working especially along that particular line. The President of the United States has been made honorary chairman of the congress and will open the session either in person or by representative. Many of the most distinguished men of all nations interested in school problems will be present at the congress.

Abundant provisions have been made by the people of Buffalo for the care and entertainment of the guests. A minor, but interesting, feature of the local arrangements is the provision for 2,000 boy scouts of all nationalities and speaking all languages to act as guides and interpreters for the visitors during the congress.

The subjects relating to the health and welfare of school children have received a tremendous amount of attention within recent years, and indeed they are among the most important of our problems concerning national welfare.

The congress at Buffalo will undoubtedly promote great practical interest in, and supply important facts concerning school hygiene to those who will use them in a practical way, and that is the prime object of the congress.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, July 11, 1913.

Proportion of Sexes at Birth

Biologists have studied, for many years, the question of determining sex in man and animals. In the human race they have tried to find out whether the proportion of boys to girls among the infants born would not explain, at least partially, the origin of sex. Following up this subject, Dr. A. Pinard of the obstetric clinic of the Faculté de médecine de Paris, and A. Magnan have recently furnished the Académie des Sciences with some interesting statistics in regard to the deliveries at the Baudelocque clinic. These statistics merit confidence as they have been kept in the most thoroughly scientific way. Each woman has a chart on which is shown, in addition to her case history, the sex, weight and measurements of her child. Taking into consideration only the living infants dismissed from the Baudelocque clinic, we find that during the period of twenty years from 1891 to 1910 inclusive, there were 42,183 deliveries. Of these, 19,122 were boys and 18,630 girls, making a proportion of 102 boys to 100 girls.

There is, therefore, an excess of male births and the same was found to be true for each one of the twenty years. But in addition to the living infants, we must consider the still-born ones and those who die during the few days that the mother stays at the clinic. To know the exact relation of male to female conceptions, we must add to the number of living children those who die during pregnancy and labor and shortly after birth. So we will get the absolute number of boys and girls procreated, minus the embryos expelled in abortion, whose sex cannot be determined. These figures show that the excess of males over females procreated is much greater than the excess when we count only the living children. The reason for this is, as Pinard and Magnan have explained before (THE JOURNAL, March 29, 1913, p. 1010), that the males undergo more traumatism during labor on account of their greater weight.

Antityphoid Vaccination in the Navy

A circular issued by the secretary of the navy states that since experimental antityphoid vaccination was authorized in the navy, April 5, 1912, 3,652 men have been vaccinated and no bad results has followed in any case, neither local nor general reactions have been excessive, and, moreover, not one

of the men has had typhoid fever. The secretary requests the medical profession to make public in their meetings the efficacy and harmlessness of the vaccine prophylaxis of typhoid fever.

In contrast with these results it is of some interest to call attention to a communication, made to the Société Anatomo-Clinique by Drs. Auché and Chevalier, reporting a case of failure of antityphoid vaccination. A soldier of the foreign legion was vaccinated in January, 1911, and on July 14 of the same year he was admitted to the hospital with quite a severe typhoid fever followed by phlebitis of one leg. Vaccination did not prevent this man from contracting typhoid fever.

Auché and Chevalier admit that this failure, similar to those which occasionally follow small-pox vaccination, does not affect the value of the procedure, for it seems to have been due to the particularly unfavorable conditions surrounding the patient, fatigue, a very severe epidemic, etc. They believe that the customary hygienic and prophylactic measures should not be neglected. They hope, moreover, that in the future cases of failure such as this one will be published, so that we may determine the duration of the immunity, the conditions under which it is deficient and when revaccination is indicated.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, July 4, 1913.

Personal

Professor Kruse has accepted the call as director of the Hygienic Institute at Leipsic as successor of Professor Hofmann.

The Berlin Medical Society and Friedmann's Remedy

In the discussion at the Berliner medizinische Gesellschaft on the address of Professor Westenhöffer, which I reported in the last letter, Professor Schleich, who treated patients at his policlinic in conjunction with Friedmann with the Friedmann remedy and also continued treatment after Friedmann sailed for America, proposed that the society should appoint a committee which should undertake a scientific test of the remedy in the form which should seem acceptable to them. The executive committee and the president of the society took the matter under advisement and unanimously concluded to decline the proposal on the ground that the committee was unnecessary, as a test could easily be made if Friedmann would furnish the remedy in sufficient amount to clinicians. The society in committee of the whole adopted this decision.

Zeller's Cancer Treatment

Last year Zeller of Weilheim, a former assistant of Czerny, the Heidelberg surgeon, aroused considerable interest by publishing an article in the *Münchener medizinische Wochenschrift* on a successful treatment of cancer patients. The work attracted special attention because Czerny himself wrote an introduction in which he recognized the success which Zeller had obtained, and recommended the process to practicing physicians for trial. The method was in part quite old as it consisted exclusively in the use of an arsenic paste, the Pasta Cosmi, which had been known for many years, supplemented by a solution of sodium silicate taken internally. With this method of treatment he claimed that he had cured a large number of patients with external cancer of the skin as well as of the bones. Among critical readers these articles of Zeller aroused considerable objection at first, in spite of the recommendation of Czerny. A few weeks ago these objections received for the first time a basis in fact by the transactions of the Leipsic Medical Society (Leipziger medizinische Gesellschaft) in which Professor Payr, director of the surgical clinic, and Professor Zweifel, director of the gynecologic clinic, reported the complete failure of the method.

As a supplement to these statements, the editor of the *Deutsche medizinische Wochenschrift*, Professor Schwalbe, initiated a collective investigation among all directors of surgical clinics in Germany, Austria and Switzerland regarding the results which they had obtained with the method. The results of this investigation he has published with the literal answers in the number of his weekly which has just appeared. The conclusions which may be drawn from this article are directly fatal to the method. A number of the professors refused to use the remedy because they had well-grounded doubts as to its efficiency; others gave it up after a short trial on account of its worthlessness; a third group among whom were Bier of Berlin, Perthes of Tübingen, Schloffer of Prague, etc., did not obtain the slightest success. Perthes reports also with reference to an arterial racemose aneurysm of the forearm which was treated by Zeller himself with the caustic paste until the hemorrhage caused the patient to forbid the continuation of the treatment. Anschütz reports that Zeller would not receive one of his assistants whom he wanted to send to him to inform himself regarding the method and results, because he was not willing to show his material. Schwalbe concludes his investigation, which he undertook, according to his own words, "in the interests of the sick and of science," with the question whether Zeller still, in the face of these reports, will adhere to his optimistic opinion. He regards it, however, as of more consequence if from the results of this investigation the general conviction should result that greater care and a more critical attitude should be observed regarding the publication of new methods of treating cancer than has hitherto obtained.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, July 12, 1913.

Complete Loss of Hair Caused by a Psychic Trauma

An interesting case of trophic disturbance after a fright was demonstrated recently at the Gesellschaft der Aerzte by Docent Dr. Nobl. A tram-car driver, otherwise healthy, 31 years of age, had a collision with an automobile. Seeing the auto dashing toward his tram, he made the utmost attempts to stop the inevitable crash, and jumped off the platform just in the nick of time. He was speechless for some minutes after the accident, otherwise unhurt, but fearfully upset and out of his wits. A few days afterward he noticed that his hair on the scalp came out in handfuls, his mustache and beard could be pulled out, and his eyebrows as well as all other hair on his body fell out in the course of the next four weeks. Only a few single hairs remained in the right armpit and on the pubes. At the time of demonstration, the skin was completely free from hair, smooth and glossy, no other pathologic condition being visible. The explanation given for this neurotic alopecia is that from the central functional (emotional) irritation, vasomotoric impulses were given off to the small arterioles of the skin. This temporary disturbance of the skin circulation, as shown by a contraction of the smaller arteries, is sufficient to interfere with the continuity of the matrix cells of the hair, and thus prepares the loosening of the hair from its follicle.

Severe Criticism on Medical Study for Women

In the course of some public lectures on the higher education of women, Professor Hochenegg, the director of the first surgical clinic in Vienna, gave publicity to his disappointment with the women who took up the medical career in this country. He severely criticized the lack of a sense of responsibility as well as the small amount of presence of mind at the command of female doctors. He is therefore of the opinion that there is no justification for females taking up this particular branch of study, and he pointed out that hitherto, although there are female doctors all over the world, not a single woman has been able to give to medical science anything really original or very important, and medicine has made large progress during the last twenty-five years only through men. Naturally these statements aroused a storm of indignant protests on the part of the doctors of the "weaker sex" in this country. They justly contended that in hospitals female doctors had the same duties and responsibilities as their masculine colleagues, and they pointed out the examples of other countries, which they think show the fallacy of the professor's assertion. Nevertheless, they were not able to prove that female genius has made its impression on the progress of medicine, and this fact is cited as proving that there is something in Hochenegg's bitter words worth thinking about.

The Summer Vacation Classes in Vienna

During the months of August and September, a number of classes will be held in the Vienna hospitals by the assistants and privat docents, which have the advantage of not being so crowded as those held during the winter or summer terms. As a rule, the material is abundant and instructive, as only the more interesting and rarer cases are received into the wards. Classes in special surgery, internal medicine, hematology, diseases of the eyes, nose and ears, and diagnostic classes on midwifery and obstetrics offer at this time special benefit to the students. All these classes last four weeks. Details may be had on application to the "portier" of the general hospital.

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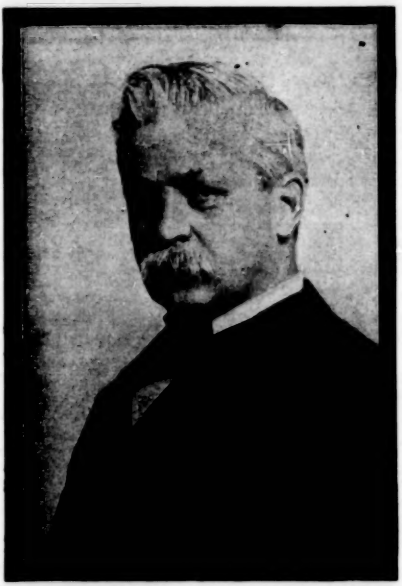
Deaths

Arthur Lee Wright, M.D. fourth vice-president of the American Medical Association in 1911-1912 and for six years a member of its Board of Trustees; one of the most eminent surgeons of Iowa; died at the American Hospital, Paris, July 19, four days after an operation for the relief of intestinal obstruction, aged 62.

He was born in Madison, Wis., Jan. 17, 1851, and received his preliminary education in the public schools of that city. After studying with a preceptor in Madison, he entered Rush Medical College and graduated in the spring of 1873. A year later he began practice in Carroll and continued uninterruptedly until the time of his death. He was for many years a fellow of the American Medical Association; and had also served as president of the American Association of Railway Surgeons, the Iowa State Medical Society and the Central District Medical Association of Iowa, and at the time of his death was president of the Association of Northwestern Railway Surgeons, of which he had been one of the founders.

Dr. Wright sailed for Europe on the *Bremen*, July 3, with a number of members of the American Society of Physicians' Study Travels intending to make a tour of the Continent before attending the International Medical Congress in London. On reaching Paris, he was taken ill with intestinal obstruction and was operated on for the relief of this condition in the American Hospital, but died July 19. He had been operated on in 1908 for appendicitis but was apparently in a normal condition of health when he left for Europe.

Dr. Wright was a man of marked personality, endowed with rare qualities of intellect and with indomitable energy. In the sickroom he possessed the quality of inspiring his patients with hope and good cheer.



ARTHUR LEE WRIGHT, 1851-1913

Horace F. Jayne, M.D. University of Pennsylvania, Philadelphia, 1882; assistant instructor in biology in his alma mater; from 1884 to 1889 professor of anatomy and secretary of the faculty and later director of the Wistar Institute of Anatomy and from 1889 to 1894 dean of the faculty; a fellow of the Philadelphia College of Physicians and a member of the board of directors of the Drexel Institute, Philadelphia; who made many important gifts to the University of Pennsylvania, the largest of which was a donation of $50,000 to found the present department of biology; a prolific writer on medical and scientific subjects; died at his home in Wallingford, Pa., July 8, from heart disease, aged 54.

Rose Willard, M.D. Northwestern University Women's Medical School, Chicago, 1891; a member of the Illinois State Medical Society; assistant professor of gynecology in her alma mater; died at her home near Belmont, Downer's Grove, Ill., July 21, aged 46.

James Linn, M.D. Cincinnati, 1840; who established the first drug stores in Hillsboro, Pana and Oconee, Ill.; a surgeon of volunteers during the Civil War; an active practitioner of medicine for nearly sixty years; died at his home near Oconee, July 20, aged 98.

Phillip O. Porter, M.D. Long Island College Hospital, Brooklyn, 1875; of Springport, Mich.; a member of the British Gynecological Society; died in Chicago, July 14, from heart disease, aged 61.

Monte Griffith, M.D. University of Maryland, Baltimore, 1896; a member of the American Medical Association and Washington Ophthalmological and Otological Society; assistant professor of ophthalmology in Georgetown University, assistant surgeon to the Eye, Ear and Throat Hospital and ophthalmologist to the Children's Hospital, Washington; for many years a practitioner of Washington; died July 11 from angina pectoris at his home in Cherrydale, Va., where he had lived since his retirement, two years ago, aged 51.

George Washington Terriberry, M.D. Bellevue Hospital Medical College, 1866; a member of the Medical Society of the State of New Jersey and one of the best-known practitioners of Passaic County, N. J.; medical cadet and later assistant surgeon of volunteers during the Civil War; from 1880 to 1909 a member of the National Guard of New Jersey, retiring with the honorary rank of brigadier-general; died at his home in Paterson, July 14, from heart disease, aged 73.

Ransom Newell Murray, M.D. Jefferson Medical College, 1866; for twenty-one years physician for the Michigan School for the Deaf, Flint; a fellow of the American Medical Association; died at the home of his daughter in Mendon, Mich., July 18, from cerebral hemorrhage, aged 82. At a special meeting of the Genesee County Medical Society, July 19, resolutions of regret and sympathy were adopted and the members of the society acted as active and honorary pall bearers at the funeral.

William Floyd Randall, M.D. Baltimore University School of Medicine, 1890; a fellow of the American Medical Association; of Dushore, Pa.; while endeavoring to rescue a well-digger who had been overcome by gas, July 17, was himself overcome and fell to the bottom of the well, sustaining injuries from which he died, a few hours later, aged 46.

Charles Reed Pratt, M.D. Yale University, New Haven, Conn., 1905; a member of the Connecticut State Medical Society; for more than five years surgeon at the Emergency Hospital, Bridgeport, Conn.; died at his home in that city, July 16, from septicemia, following an infection of the throat, aged 34.

Leslie Hill Wheeler, M.D. Medical School of Maine, Portland, 1882; a fellow of the American Medical Association; formerly of South Brewer, Me.; died at his home in Los Gatos, Cal., March 24, from lobar pneumonia, aged 59.

Eliza Miller Le Duc, M.D. Hahnemann Medical College, Chicago, 1886; a nurse during the Civil War; later a teacher of colored children in the South and superintendent of the Industrial School for Girls, Chicago; since 1886 a resident of Los Angeles; died at her home in Sierra Park, a suburb of that city, July 13, aged 75.

James Edward Morris, M.D. Starling Medical College, Columbus, Ohio, 1857; Bellevue Hospital Medical College, 1874; a fellow of the American Medical Association and for fifty years a practitioner of Liberty, Ind.; died at his home, July 19, aged 84.

James Bernard Shannon, M.D. College of Physicians and Surgeons, New York City, 1895; of Danielson, Conn.; a member of the Connecticut State Medical Society; died at a sanatorium in Falls Village, Conn., July 15, from nephritis, aged 42.

Alfred Wainscott, M.D. Louisville (Ky.) Medical College, 1887; a member of the Kentucky State Medical Association; of Bethlehem; died in the Norton Infirmary, Louisville, July 12, aged 53.

Lucien E. Ellis, M.D. University of Buffalo, N. Y., 1879; a member of the school board of Detroit for fourteen years and school inspector for the Sixteenth Ward; died at his home in Detroit, July 12, aged 63. At a special meeting of the Board of Education, July 14, resolutions were adopted reciting the faithful service of Dr. Ellis to the cause of education in Detroit and expressing the regrets of his colleagues at his death.

John Warren, M.D. College of Physicians and Surgeons, New York City, 1881; of New York City; a fellow of the American Medical Association and New York Academy of Medicine; assistant medical director of the Equitable Life Insurance Company; dermatologist to the New York Policlinic Hospital; died in Atlantic City, N. J., July 18, after a lingering illness, aged 57.

Elbert Franklin Sevier Rowley, M.D. Philadelphia University of Medicine and Surgery, 1869; a Confederate veteran; for several terms alderman and for two terms mayor, at one time chairman of the Board of Health and for twenty-five years a member of the Board of School Trustees of Greenville, S. C.; died at his home, July 9, from disease of the intestine, aged 69.

Elza Van Coldren, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1864; a fellow of the American Medical Association; a veteran of the Civil War; for more than thirty years a practitioner of Topeka, Kan.; died at the home of his daughter in that city, July 17, from senile debility, aged 72.

James A. Rea, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1875; Barnes Medical College, St. Louis, 1899; a member of the Kansas Medical Society; formerly a member of the American Medical Association; died at his home in Wellington, June 28, from nephritis, aged 72.

William Joseph Glinnen, M.D. Bellevue Hospital Medical College, 1897; for fifteen years a practitioner of the eastern district of Brooklyn and Greenpoint; died in St. Catherine's Hospital, Brooklyn, July 13, after an operation for appendicitis.

Henry Jacques Garrigues, M.D. University of Copenhagen, Denmark, 1869; formerly of New York City and consulting physician to several New York hospitals; died at his home in Tryon, N. C., July 7, aged 82.

Leander D. McKee, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1868; a member of the Missouri State Medical Association; died at his home in Wayland, Mo., July 7, from heart disease, aged 69.

Ambrose Herbert Weeks, M.D. Bowdoin Medical College, Brunswick, Me., 1893; a fellow of the American Medical Association; died at his home in Portland, Me., June 28, aged 45.

Marriages

HUGH BUREN HENRY, M.D., Little Rock, Ark., to Miss Evelyn May Cooper of Kansas City, Mo., at Little Rock, April 30.

REUEL JAMES TANQUARY, M.D., St. Louis, to Miss Eva W. Robertson of New York City, at Effingham, Ill., July 19.

FRANK LINDEN RICHARDSON, M.D., Boston, to Miss Constance Mathilde Mathey of Needham, Mass., July 21.

ABRAHAM TRUMPER, M.D., Montgomery, Ala., to Miss Rebecca Beatrice Fineman of Philadelphia, June 29.

CHARLES HENRY STONE, M.D., Coatesville, Pa., to Miss Elizabeth Comly Hoopes of West Chester, Pa., July 15.

ULYSSES SHERMAN GREGG, M.D., St. Joseph, Mich., to Miss Elizabeth Gale Dye of Niles, Mich., June 25.

JAMES FLEMMONS GARMANY, M.D., to Miss Ada Leona Owens, both of Portales, N. Mex., June 25.

RALPH S. BAYNES, M.D., Hurdle Mills, S. C., to Miss Elizabeth Stanford of Portsmouth, Va., July 10.

WILLIAM P. ROWLAND, M.D., to Miss Mary Ross Grier, both of Arkadelphia, Ark., July 16.

EDWARD S. LOGÉ, M.D., to Miss Anna Soukup, both of Milwaukee, at Chicago, July 12.

EDWARD FRANK GOLLOBITH, M.D., to Miss Ida Eadle, both of Hanover, Ill., June 26.

JOHN D. BUBERT, M.D., Baltimore, to Miss Elizabeth Tinker, at Baltimore, July 16.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

REEXAMINATION OF LACTOPEPTINE

Report to the Council on Pharmacy and Chemistry

In 1907 the Council on Pharmacy and Chemistry published a report on Lactopeptine. At that time it was shown that Lactopeptine did not have the composition claimed for it. The same claims as to composition are still being made for the product. In view of this fact, a second examination of Lactopeptine has been made and the result reported to the committee on chemistry. The report confirms the Council's findings of six years ago. After adoption by the committee, it was adopted by the Council and its publication authorized.

W. A. PUCKNER, Secretary.

SECOND EXAMINATION OF LACTOPEPTINE

Two specimens of Lactopeptine in original unbroken packages were recently examined. One of these was an American preparation said to be produced by the New York Pharmaceutical Association at Yonkers and the other an English preparation from John Morgan Richards and Sons, London.

When Lactopeptine was first examined by the Council about six years ago, it was found to be little more than weak saccharated pepsin, and did not contain the other ferments which were claimed by the manufacturers to be present. A statement concerning this was published in the Council Reports for 1905-1908, p. 43. Because of claims recently made by the exploiters that this preparation contains not only pepsin but also pancreatin, diastase, lactic acid and hydrochloric acid, and that the failure to recognize these must be due to the lack of ability of the chemists making the examination, it seemed worth while to undertake a new series of tests on samples from the two sources mentioned, the products on the British and the American markets. The label on the British sample gives the following as the composition:

Sugar of Milk	40 ounces
Pepsin	8 ounces
Pancreatine	6 ounces
Ptyalin or Diastase	4 drachms
Lactic Acid	5 fl. drachms
Hydrochloric Acid	5 fl. drachms

The label on the American sample gives no quantities but states that it "represents a combination of the principal digestive and enzymogenic agents, Pepsin, Pancreatin, Diastase, Lactic and Hydrochloric Acids, in the proper proportion to insure best results."

We have examined both preparations for starch-digesting power according to the methods employed in our previous examinations of such ferments and already reported. Diastase and the amylopsin of pancreatin seem to be completely absent, or, if present at all, in such minute traces that digestion of starch is not shown after one hour when quantities running from 60 mg. up to 150 mg. were allowed to act on 500 mg. of starch made up into paste. These tests were repeated, always with the same results, and were controlled by digestions of the same starch with other diastase preparations of known value.

Tryptic activity appears likewise to be absent, as in weak alkaline solution after fifteen hours' digestion no effect on coagulated egg albumin or fibrin was observed when 100 mg. of each preparation was used with 1 gm. of the protein material.

As was found in the previous investigation the two products have some peptic activity, but this activity is comparatively weak, as about 200 mg. of each preparation are required to digest 10 gm. of coagulated egg albumin with 0.2 per cent. hydrochloric acid in three hours at 40 C. (104 F.), and 100 mg. portions were unable to completely digest 10 gm. portions of egg albumin with acid of the same strength in four hours at 50 C. (122 F.).

Hydrochloric acid is absent, as might be expected from the character of the preparation, and the amount of combined chlorid is small; but qualitative tests were obtained for organic acid resembling in behavior lactic acid, which is probably present in combined form.

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It must be reaffirmed then that in digestive activity both the Lactopeptine purchased in the United States and that bought in England are essentially weak saccharated pepsins.

EDITORIAL NOTE.—The report of 1907 demonstrated that Lactopeptine was at that time a weak saccharated pepsin. The present report shows that Lactopeptine, as it is sold both in the United States and in Great Britain, is still the same weak pepsin preparation. By the false statements which appear on the Lactopeptine labels the exploiters lay themselves liable to prosecution under the Food and Drugs Act—just as they have laid themselves liable for the past six years. The continued exploitation of this preparation warrants a restatement of facts that have been given many times before:

1. A preparation having the composition claimed for Lactopeptine—a powder containing pepsin, pancreatin, diastase, lactic acid and hydrochloric acid—cannot be produced commercially.

2. Even if such a combination were available, the acidity of the mixture itself and of the gastric juice would in all probability destroy the pancreatin before it could reach the intestinal tract.

3. Even if every constituent could exert its proper function at the right time, the administration of such a shotgun mixture would be unscientific and uncalled for.

Correspondence

Credit for Discovery of Organism of Parinaud's Conjunctivitis

To the Editor:—I have just read the proceedings of the Section on Ophthalmology (THE JOURNAL, July 5, 1913, p. 34) and note what is said with reference to a case of Parinaud's conjunctivitis on which report is made of the discovery of the cause by my friend Dr. Verhoeff of Boston. I regret that at the last moment I was compelled to forego the pleasures and privileges of the meeting; hence I must write thus:

At the meeting of the Chicago Ophthalmological Society held May 19, I read a paper on Parinaud's conjunctivitis in which I announced the discovery of a fungus as a probable cause. I was pleased to learn from the discussion of Dr. Harry Gradle that Dr. Verhoeff made similar announcement two weeks at the meeting of the American Ophthalmological Society. We have exchanged slides and find that we have discovered the same organism as the cause of the disease. My case was seen first Sept. 18, 1912, and the granulation excised and sent to Prof. H. R. Alburger of the Department of Pathology of the University of Indiana, who did the microscopic work and made the expert diagnosis as noted.

It seems that unknown to each other both Dr. Verhoeff and I started out to find the cause of this rare disease, and to both of us must belong the credit of the discovery.

GEORGE F. KEIPER, M.D., Lafayette, Ind.

[The foregoing was submitted to Dr. Verhoeff who replied:]

To the Editor:—Permit me to state more fully the facts mentioned by Dr. Keiper in the preceding letter. It is true that we exchanged slides (June 5, 1913) but his statement that we "find that we have discovered the same organism as the cause of the disease," so far as it refers to me, is incorrect. He sent me three slides none of which I found was stained in such a way as to show the organisms described by me. I informed Dr. Keiper of this fact, and obtained his permission to restain one of his slides by my method. I was then able to demonstrate the organisms in great abundance. Dr. Alburger's specimens show the tissues so badly crushed and the fixation so imperfect that I feel sure that he has mistaken something else for organisms, possibly squeezed out nuclei or fibrin.

My paper, in which I described the finding of a hitherto undescribed filamentous organism in eleven out of twelve consecutive cases of Parinaud's conjunctivitis, was read before the New England Ophthalmological Society April 8, 1913, and is now appearing in the July number of the *Archives of Ophthalmology*. I demonstrated specimens of the organisms at this meeting and later before a number of medical societies. Dr. Keiper, I understand, has published nothing in regard to his case, nor has he demonstrated his specimens. He also has given no details in regard to the morphology of his supposed organism or its staining reactions.

F. H. VERHOEFF, M.D., Boston.

Typhoid Death-Rate of Memphis

To the Editor:—I beg to call your attention to your article (May 31, 1913, p. 1703), in which you say that Memphis has the unenviable distinction of maintaining the highest death-rate from typhoid fever of any of the large cities of the United States. If you will refer to our correspondence you will note that this mortality rate is explained, and since your editorial has been quoted editorially and otherwise by the lay press of some of the cities in this section as well as other sections, it becomes my duty to take this matter up with you in the interest of simple justice.

M. GOLTMAN, M.D., Memphis, Tenn.,
Superintendent Department of Health.

[COMMENT: The correspondence referred to by Dr. Goltman was a letter in which it was explained that the typhoid situation in Memphis for 1912 was due to the overflow of the Mississippi River, which infected a portion of the city's water-supply. To combat this infection, the health authorities of Memphis administered antityphoid vaccine to over 30,000 people. While the figures in THE JOURNAL'S article and the statement regarding the typhoid rate of Memphis are both correct, in fairness to that city, the cause of the high rate should have been mentioned. Particularly is this true in view of the enlightened attitude of Memphis citizens in adopting modern prophylactic methods.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

THE VERB "MASSAGE"

To the Editor:—In THE JOURNAL, June 7, 1913, p. 1814, occurs a question as to the right form of the verb meaning to apply massage. According to the common usage of the English language, the verb ought to be, I think, to "massate"—there is a late Latin verb *massare*, borrowed no doubt from the Greek μάσσειν (compare vaccinate). The suffix -age, is a noun suffix, not a verb suffix, though we use "voyage" both as a substantive and as a verb. "Encourage" is justified by the prefix "en." I do not know, however, why we should not say "to mass," as we say "to pass" (from the French *passer*). "To masser" is of course wrong.

H. W. MILLS, M.D., San Bernardino, Cal.

ANSWER.—Our intention in the note here referred to was merely to record usage, not to coin a new word. It is too late to introduce "massate," although this would correspond to the German *massieren*. To say "to mass" would be misleading. The Greek verb μάσσω by the way, means to chew or masticate. "Massage" is from the French, and its use as a verb is justified by the facility with which verbs are formed from nouns in English.

GAFFKY SCALE OR TABLE

To the Editor:—Please explain the Gaffky scale. Is it an instrument or a scheme?

S. C. E.

ANSWER.—The Gaffky scale or table is a classification of cases of tuberculosis according to the number of bacilli in the sputum. The following modified Gaffky table is recommended by Brown: 1. Only one to four bacilli in whole preparation. 2. Only one on an average in many fields. 3. Only one on an average in each field. 4. Two to three on an average in each field. 5. Four to six on an average in each field. 6. Seven to twelve on an average in each field. 7. Thirteen to twenty-five on an average in each field. 8. About fifty on an average in each field. 9. About one hundred on an average in each field.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

NEW MEDICAL PRACTICE ACT IN ARIZONA

The new medical practice act for Arizona creates a composite board of five members, to wit: two regulars, one homeopath, one eclectic and one osteopath. Three forms of certificates are provided for as follows; a certificate to practice medicine and surgery, one to practice osteopathy, and one to practice any other system of healing. All applicants must file the diploma of the school from which they graduated with the board and must submit to an examination in the fundamental subjects. The act does not provide for reciprocity. It specifies the procedure under which a charge of "unprofessional conduct" may be tried, and defines "unprofessional conduct." Treatment by prayer and the like is exempted under the act.

THE THREE HARRISON OPIUM BILLS

Shortly after the American occupation of the Philippines it was found that the people of these islands were suffering from the effects of opium. To eliminate trade in this drug the United States initiated a series of international commissions and conventions, which have culminated in efforts at world-wide legislation against the evil.

At the sitting of the International Opium Commission at Shanghai in 1909, it was found that the United States was open to considerable criticism for permitting the importation of smoking-opium during the fifty years prior to 1909. Not only that, but this country had collected approximately $27,000,000 of revenue thereon. The presentation of these facts to Congress brought about the passage of the opium-exclusion act of 1909.

This law, together with certain measures enacted at an earlier date, have proved themselves quite insufficient to suppress the opium trade. Hence, to perfect this apparently inadequate legislation, Representative Harrison of New York has introduced three measures into the Sixty-Third Congress. These are H. R. 1967, H. R. 1966 and H. R. 6282, all regulatory of the opium traffic.

H. R. 1967, the first of this series of three bills, is to amend the act of Oct. 1, 1890 (26 Stat., p. 1567), regulating the manufacture of smoking-opium within the United States. The bill is designed to impose so severe a tax on the manufacturers of smoking-opium as to discourage altogether their continuation in business. For this purpose, it raises the tax from $10 to $200 a pound and raises the bond required of manufacturers from $5,000 to $100,000. It also greatly increases the penalties for infractions of the law. It is substantially a reenactment of those provisions of the act of 1890, which cover the manufacture of smoking-opium within the United States. The chief difference is the great increase in the amount of the tax and in the penalties for the infringement of any of its provisions.

H. R. 1966, the second bill considered in the House of Representatives, deals with the international phase of the question. It is a reenactment of the opium-exclusion act of Feb. 21, 1909, with more drastic provisions. There is also a further provision absolutely prohibiting the exportation of opium from the United States under certain given circumstances. It was found that the old law only facilitated smuggling, which was carried on in a manner wellnigh defying proof of the offense. To obviate this, the proposed law shifts the burden of proof to the defendant to establish his innocence. Thus, hereafter, any one having smoking-opium in his possession in the United States will be required to show that it was imported prior to April 1, 1909. Again, transshipments of opium were being made in San Francisco. Such cargoes would eventually find their way into this country, overland, from Mexico. In the opinion of the attorney-general at the time, Mr. Wickersham, such a transferring of cargoes could not be prevented, as such a transshipment did not constitute an importation. The new law meets the difficulty by forbidding any one, within the jurisdiction of the United States to bring any smoking-opium into this country on any vessel railroad-car or any other vehicle fitted for transportation.

In this use of the term "vehicle," airships and the like are not prohibited. For, the term, as defined in the Revised Statutes, includes only every description of carriage "used, or capable of being used, as a means of transportation *on land*." Just as "vessel" under the Revised Statutes includes only every kind of water-craft. The Senate, however, may amend the bill to remedy this defect.

To control smuggling more fully this section also shifts the burden of proof. Hereafter, any person having smoking-opium in his possession, under such circumstances as the act sets forth, must prove that it was not obtained illegally. Penalties are provided for any violation of the law.

In Section 5 of this bill it is provided that smoking-opium is not to be admitted into the United States for transportation into other countries. In the House, the point was made that this language would not prohibit the introduction of opium into territories, such as the Philippines, for transportation into other countries. The section was therefore amended to read, "into the United States, or into any territory under the control or jurisdiction thereof."

From the commerce clause of the federal Constitution there flows, it would seem, the grant of police power authorizing Congress to prohibit absolutely the exportation of opium. Such a prohibition would seem to find parallels in the embargo act of 1807; in the regulations against the exportation of obscene literature, and other offensive matters through the mails; and again in the undoubted power of Congress to forbid "the shipment to any foreign country of any article of food, or drug, which is adulterated, or misbranded, etc. . . ." Moreover it would seem incontrovertible that a state may, under its police power, regulate such things as fall within its jurisdiction, and as are deleterious to the human family. On the same grounds, then, why may not Congress, under its express power "to regulate commerce among the several states and with foreign nations," control the exportation of an article which is deleterious to the human family internationally?

H. R. 6282 is the third and last of the series of bills attempting the control and regulation of the traffic in narcotics. Thereunder no sale of the so-called habit-forming drugs may be made, except by persons who have paid the special tax, and have registered with collectors of internal revenues. Forms are to be sold to the "bona fide" dealers in these drugs with their names stamped thereon, to be used in ordering their supplies, and no one may use these forms for this purpose but the person or firm to whom such were originally issued.

The act is to be construed not to apply to physicians, etc., dispensing such drugs in the course of their professional practice. But, a physician "shall personally attend upon" the patient to whom he is prescribing the drug. And, the measure does not cover a sale by a pharmacist on the written prescription of a physician. The prescription however must be "dated as of the day on which signed, and signed by the physician" who issued it. It must also be preserved by the druggist for "two years from the day on which it was filled." Nor does the bill cover a sale of these drugs by "any person" in this country to "any person" in a foreign country. Finally, it is provided that the act shall not apply "to the sale of preparations and remedies which do not contain more than 2 grains of opium, or more than ¼ of a grain of morphin, or more than $^1/_{12}$ of a grain of heroin, or more than 1 grain of codein, or any salt, or derivative of them in 1 fluidounce, or, if a solid or semisolid substance in 1 avoirdupois ounce; or to liniments, etc., prepared for external use only, except liniments, etc., which contain cocain, etc., or any synthetic substitute for them." But all such preparations, and the like, must be sold as remedies and not to evade the act.

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In the debate over this section in the House it was admitted that it was a concession to the firms manufacturing proprietary medicines. An attempt was made to amend the section to reduce the percentage of the drugs one half. This was defeated because the leaders felt that any step toward the control of this traffic is better than none. Also that the passage of the bill would be more readily effected by compromising with these people for the present. Later, when the public becomes better educated, further legislation may be brought about which will control even this branch of the trade.

These three measures, according to Representative Harrison, constitute the redemption of our pledge to the world. All the nations that attended the opium convention were to assist in the abrogation of the traffic. The United States on the enactment of these bills into law, will have done its share. The three bills have passed the House of Representatives, and are now in the United States Senate, where they have been referred to the Finance Committee for its due consideration.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CALIFORNIA: San Francisco, August 5-8. Sec., Dr. Charles B. Pinkham, 135 Stockton St., San Francisco.

NEBRASKA: Lincoln, August 13-14. Sec., Dr. C. P. Fall, Beatrice.

Louisiana June Report

Dr. A. B. Brown, secretary of the Louisiana State Board of Medical Examiners, reports the written examination held at New Orleans, June 5-7, 1913. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 67, of whom 53 passed, 12 failed, and 2 withdrew. Three candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Atlanta College of Physicians and Surgeons	(1913)	87.6
Atlanta School of Medicine	(1911)	77.4
Bennett Medical College	(1913)	84.4
University of Louisville	(1912) 80.6; (1913)	84, 85.8
Tulane University of Louisiana.	(1912) 81, 88.4, 90.4; (1913)	79, 79.7, 81.9, 85, 83.2, 83.2, 85, 85.1, 85.4, 85.5, 85.7, 85.7, 85.8, 86.3, 86.4, 86.5, 86.5, 87.2, 87.2, 87.4, 87.6, 87.6, 87.7, 87.8, 87.8, 88.1, 88.4, 88.5, 88.8, 88.9, 89.1, 89.5, 89.6, 89.8, 90.9, 91.2, 91.9, 91.9, 93.1.
University of Tennessee	(1912)	77.8
Memphis Hospital Medical College	(1884) 78.9; (1912)	78.7
Vanderbilt University	(1912)	78.4
University of Berlin, Germany	(1912)	93.1

FAILED

University of Arkansas	(1911)	59.3
College of Physicians and Surgeons, Little Rock	(1911)	50.3
Atlanta College of Physicians and Surgeons	(1913)	62.1, 64.6
Tulane University of Louisiana	(1898)	63.1
University of Tennessee	(1913)	62, 63.7
Memphis Hospital Medical College,	(1901) 51.4; (1911) 51.9; (1912) 64.5; (1913) 74.8.	
University of Nashville	(1913)	51.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1901)	Illinois
Columbia University	(1909)	N. Carolina
Jefferson Medical College	(1905)	Ohio

The following questions were asked:

ANATOMY

1. How many bones of the head? Name them. 2. Give origin, insertion and nerve supply of gluteus maximus, pronator radii teres, pectoralis major, latissimus dorsi and quadratus lumborum. 3. Describe the different valves of the heart. 4. Name the muscles that (*a*) flex, (*b*) extend, (*c*) pronate, (*d*) supinate, the forearm. 5. Name the vessels and nerves of the stomach. 6. Give the coverings of an oblique inguinal hernia. 7. Describe briefly the antrum of Highmore. 8. Name the germ layers from which the following structures develop: liver, stomach, nervous system, blood, hair. 9. Give origin, course and distribution of phrenic nerve. 10. Origin, course and distribution of sciatic nerve.

CHEMISTRY

1. What is the elementary composition of the proteids? 2. What is the test and reaction for indican in the urine? 3. What are the albuminoids and where are they found in the body? 4. What is the elementary composition of lactose, and how derived? 5. What is the salivary ferment and explain its action. 6. How does CO_2 act as a poison? 7. What are the characteristic properties of bases and acids relative to litmus paper? 8. What is understood by atomic weight? 9. (*a*) What is an unorganized ferment? (*b*) Give examples of unorganized ferments of the body. 10. (*a*) What is a carbohydrate? (*b*) Name some of the important carbohydrates utilized in the body.

PATHOLOGY

1. Describe the changes occurring in the blood in (*a*) splenomedullary leukemia and (*b*) pernicious anemia. 2. (*a*) By what gross pathological changes is arteriosclerosis recognized? (*b*) What are its histologic characteristics? 3. (*a*) Describe the *Amœba coli* (*b*) Tell what changes occur in the intestine due to amebic infection. 4. Describe the gross pathologic appearance of a tuberculous kidney. 5. (*a*) What are the various forms of sarcoma of long bones? (*b*) Tell which of these is the least malignant and why. 6. What is a cyst? 7. Describe the pathologic changes occurring in the lung in pulmonary tuberculosis. 8. What is the pathology of acute appendicitis, going on to suppuration? 9. What changes occur in joints following metastatic infection? 10. (*a*) Name the different forms of the malarial plasmodium. (*b*) Describe any one of them as it appears under the microscope.

PHYSIOLOGY

1. What are the essential structural elements composing, and what are the functions of, the sympathetic system? 2. Summarize the biliary functions of the liver. 3. How do carbon, oxygen, nitrogen and hydrogen, enter and leave the body? 4. What are the causative factors of the capillary circulation? 5. (*a*) Describe fully reflex action. (*b*) Give examples of superficial reflexes and deep reflexes. 6. What is understood by subjective sensation, by objective sensation; give examples of both forms. 7. What is the function of, and what parts are innervated by, (1) the recurrent nerve, (2) the spinal accessory, (3) the hypoglossal? 8. (*a*) What factors influence urinary excretion, (*b*) give examples of the modifying influence of diuretics on this excretion. 9. What are the organic and inorganic constituents of the saliva, and what are the factors which influence salivary digestion? 10. Give several examples of (1) carbonaceous foods, (2) nitrogenous foods, (3) carbo-nitrogenous foods.

OBSTETRICS

1. Describe the blood-supply of the uterus. 2. State the diameters of the pelvic outlet. 3. Divide pregnancy into three trimesters, and give the signs of pregnancy occurring in each period. 4. Define position, presentation and attitude. 5. How determine the prematurity of a child at birth? 6. Describe the prophylaxis of eclampsia, and the treatment of same at the eighth month. 7. Should the head fail to engage in the pelvic brim, how manage the case of labor? 8. Diagnose fetal syphilis. 9. Detail the immediate repair of a complete laceration of the perineum. 10. Differentiate placenta praevia from a premature separation of a normally implanted placenta.

GYNECOLOGY

1. Define pelvic hematocele and pelvic hematoma. 2. (*a*) Give the differential diagnosis between acute pyosalpinx and pelvic cellulitis. (*b*) Describe the treatment of pelvic cellulitis. 3. What are the signs of laceration of the cervix and of the perineum (combined)? 4. Give the differential diagnosis between (*a*) hematocele of the vulva, (*b*) Abscess of Bartholin's gland and (*c*) pudendal hernia. 5. (*a*) Name the indications for abdominal hysterectomy. (*b*) Describe the technic of supravaginal hysterectomy. 6. What are the causes of chlorrhea? 7. Describe the technic of operation for closure of vesicovaginal fistula. 8. (*a*) Name the varieties of tubal gestation. (*b*) Describe the treatment of tubal gestation after rupture has taken place. 9. What are the indications for curettage? 10. What are the indications for the administration of the hot vaginal douche?

PHYSICAL DIAGNOSIS

1. Compare the associated attributes of sound as they occur on percussion, in an air-containing viscus and in an airless viscus. 2. What are the characteristics that differentiate rales from other adventitious sounds? 3. Define vocal fremitus, and state its significance in pulmonary disease. 4. Describe (*a*) vesicular and (*b*) bronchial breathing, and state in what condition the latter replaces the former. 5. What are the physical signs present in pleurisy with purulent effusion? 6. State the physical signs of a cavity of the lung in tuberculosis. 7. What characteristics of anemic murmurs distinguish them from true organic murmurs? 8. What causes of displaced apex-beat, and state the physical signs of one of the conditions mentioned. 9. Describe (*a*) Babinski's sign; (*b*) Kernig's sign; (*c*) Cheyne-Stokes respiration. 10. What physical signs would enable one to distinguish ascites from other abdominal enlargements?

THERAPEUTICS

1. Give antidotes for arsenic, carbolic acid, atropina, strychnin and chloral hydrate. 2. Describe the physiologic action and give the therapeutic use of digitalis. 3. What drugs would you use in acute articular rheumatism; write a prescription containing one. 4. Give the uses of ichthyol in medicine. How is it obtained? 5. What class of acids would you give in order to render alkaline urine acid? 6. Differentiate between apoplexy and opium poisoning. 7. What is ergot? What are its most pronounced physiological actions? 8. Give indications for the use of the following: nux vomica, arsenic, belladonna. 9. What is quinin? In what diseases is it used and how does it act? 10. What are diuretics? Explain their action and use.

HYGIENE

1. What diseases are carried by animals and insects? 2. What sanitary measures are needed to prevent the spread of bubonic plague? 3. State the composition of cows' milk, and the characteristics of each component. 4. How is milk adulterated, and state a method of identifying one of the adulterants named? What are fomites, and what rôle do they play in infectious diseases? 6. How is the mortality rate of a city computed? 7. How does the hookworm enter the human body and what is the prophylaxis of same?

8. What special hygienic care do pregnant and parturient women require? 9. What is the significance of nitrites and nitrates in drinking water? 10. Detail the hygienic care of a case of typhoid fever.

SURGERY

1. Give signs, symptoms, and treatment of tubercular hip-joint disease. 2. Give differential diagnosis between gall-stones, appendicitis, ulcer of stomach, and cancer of stomach. 3. What symptoms would lead you to believe that a hernia was strangulated? 4. What is cardiospasm; give symptoms. 5. What are the essentials of a good amputation? 6. Describe the technic of an intravenous infusion. 7. Name the surgical conditions that may cause indigestion. 8. Describe the process of repair of tissue. 9. Give treatment of acute suppurative osteomyelitis. 10. Give symptoms and treatment of fracture of the base of the skull.

Medicolegal

Treatment of Disease without Administering Medicine—What the Law Seeks

(Lewis vs. State (Tex.), 155 S. W. R. 523)

The Court of Criminal Appeals of Texas affirms a conviction of the defendant Lewis of the offense of practicing medicine without having registered his authority so to do, if he had any such authority, from the State Board of Medical Examiners. The court says that it was shown that he had treated and offered to treat paralysis, rheumatism, asthma, tonsillitis, kidney trouble, cancer, female trouble, stomach trouble, nervousness, abscess, neuralgia, and various other diseases, even to removing cataracts, etc., making specific charges for the treatment, but he earnestly insisted that, as he did not prescribe nor give medicine for the treatment of disease, he did not come within the provisions of the medical practice act, or if the act is so drawn as to include one who treats disease, otherwise than by administering medicines, then the act is unconstitutional. His counsel filed an able and extensive brief, but cited the court to no authorities as sustaining their contention, and the court has found none.

In the first place, the court wants to call attention to the fact that the medical practice act does not seek to regulate how any one shall treat diseases or disorders; it simply provides that, before any one shall treat, or offer to treat, diseases or disorders of the human family, he shall demonstrate that he is well grounded in certain studies named in the act. This is to compel a person to show he has a knowledge of the human frame, the organs of the body, and an ability to diagnose diseases, etc. If he shall pass this examination, then the treatment of disease is left to his judgment, and in no way does the act seek to control how any man shall treat disease. The misconception of the terms of the medical practice act has been the basis of much argument.

No one has an inalienable right to follow the occupation of practicing medicine or treating disease for pay any more than one has the inalienable right to follow the occupation of practicing law for pay, or to practice dentistry, or any other occupation that requires and demands a certain amount of what might be termed technical knowledge of the subject with which he represents he is competent to practice. Every question raised by the defendant in his brief has been so thoroughly discussed by this court in cases heretofore decided that the court deems it but useless to reiterate the law as therein announced, as the argument of his counsel has not caused it to change its views, as therein expressed.

Constitutionality of Ordinance to Secure Purity of Milk Shipped in from Outside of City

(Adams vs. City of Milwaukee (U. S.), 33 Sup. Ct. R. 610)

The Supreme Court of the United States affirms a judgment of the Supreme Court of Wisconsin sustaining the validity of an ordinance of the common council of the city of Milwaukee regulating the sale of milk. The court says that the ordinance provides that no milk drawn from cows outside of the city shall be brought into the city, contained in cans, bottles or packages unless they be marked with a legible stamp, tag or impression bearing the name and address of the owner of the cows, and unless such owner shall, within one year from the passage of the ordinance, file in the office of the commissioner of health a certificate of a duly licensed veterinary surgeon or other person given authority by the state live stock sanitary board to make tuberculin tests, stating that such cows have been found free from tuberculosis or other contagious diseases. The certificate is required to give a number which has been permanently attached to each cow and a description sufficient for identification. The certificate must be renewed annually and must show that the cows are free from tuberculosis or other contagious diseases.

The plaintiff contended that the ordinance violates the 14th Amendment to the Constitution of the United States because it discriminates between milk drawn from cows outside of Milwaukee and milk drawn from cows within the city, and therefore does not affect all persons alike. But inspection and care can be applied to the animals within the city, and it is applied also to the milk drawn from such animals. It cannot be applied to animals kept outside of the city. It can only be applied to the milk drawn from them. The Supreme Court of Wisconsin said: "There are brought into Milwaukee, from outside of the city, about 28,000 gallons of milk every day, drawn from more than 10,000 cows. It would be practically impossible to subject this quantity of milk to a microscopic examination, or to subject it to what is called in the evidence the centrifugal test, which would also require the use of a microscope, although not to the same extent. Each animal within the city can be subjected to an individual examination, a microscopic test of samples of its milk, an inspection as to its condition of health, and the tuberculin test applied directly under the orders of the health commissioner. This is a sufficient basis for separate legislation relating to milk shipped into the city." This court concurs in that conclusion.

The different situations of the animals require different regulations. Cows kept outside of the city cannot be inspected by the health officers; they can be inspected by a licensed veterinary surgeon and a certificate of the fact and identity of the cows and the milk authenticated as required by the ordinance. The requirements are not unreasonable; they are properly adaptive to the conditions. They are not discriminatory; they have proper relation to the purpose to be accomplished. That purpose and the necessity for it this court cannot question.

Nor does this court agree with the plaintiff's contention that the provision of the ordinance which requires milk that does not conform to its requirements to be confiscated, forfeited and immediately destroyed, takes his property without due process of law. He overlooked the allegation of his complaint, which was not that his cows are free from infectious or contagious disease, but only "so far as he is able to learn or discover." And the allegation of his willingness to withdraw tainted milk from sale depends on the same contingent knowledge or information. He overlooked also the findings of the courts against the sufficiency of his information, and their demonstration of the necessity of the tests established by the ordinace. But even if the necessity of the tests be not demonstrated and the beliefs which induced them may be disputed, they cannot be pronounced illegal. In Laurel Hill Cemetery vs. San Francisco, 216 U. S. 358, this court expressed the deference which must be accorded to local beliefs, saying that it would not overthrow an exercise of police power based on them to protect health merely because of its adherence to a contrary belief. It will be observed, therefore, that the contention of the plaintiff is without foundation, and that the ordinance is not an arbitrary and unreasonable deprivation of property in a wholesome food, but a regulation having the purpose of and found to be necessary for the protection of the public health.

The police power of the state must be declared adequate to such a desired purpose. It is a remedy made necessary by the plaintiff acting in disregard of the other provisions of the ordinance—that is, failing to have his cows tested and their milk authenticated, as prescribed. The city was surely not required to let the milk pass into consumption and spread

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its possible contagion. This seems to be the alternative for which plaintiff contended, and might occur. All milk produced outside of the city had amounted, the state supreme court said, to 3,500 eight-gallon cans daily. Criminal pains and penalties would not prevent the milk from going into consumption. To stop it at the boundaries of the city would be its practical destruction. To hold it there to await judicial proceedings against it would be, as the supreme court said, to leave it at the depots, "reeking and rotting, a breeding place for pathogenic bacteria and insects during the period necessary for notice to the owner and resort to judicial proceedings."

This court agrees with that court that the destruction of the milk was the only available and efficient penalty for the violation of the ordinance. In other words, as the milk might be prohibited from being sold, at the discretion of the board of health, and even prohibited from entering the city, a violation of the conditions on which it might be sold involves as a penalty its destruction. The plaintiff sets up his beliefs and judgment against those of government, and attempts to defeat its regulations, and thereby makes himself and his property a violator of the law.

In North American Cold Storage Co. vs. Chicago, 211 U. S. 306, 315, this court said, by Mr. Justice Peckham, that food which is not fit to be eaten, "if kept for sale or in danger of being sold is itself a nuisance and a nuisance of the most dangerous kind; involving, as it does, the health, if not the lives, of persons who may eat it." And it was decided that in such case the food could be seized and destroyed, and that a provision for a hearing before seizure and condemnation was not necessary. It was also decided that the owner of the food had his remedy against the arbitrary action of the health officers. No decision is here rendered on the validity and effect of the provision in this ordinance that the health officers "shall be held harmless in damages" for their acts "if done in good faith." It may be that that portion of the ordinance is separable if invalid.

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Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Tropical Diseases and Preventive Medicine, New Orleans

July 1, No. 1, pp. 1-111

1 *Value of Course in Tropical Medicine for Training of Internist. E. R. Stitt, Washington, D. C.
2 *Physiologic Activity of Americans in Philippines. W. P. Chamberlain, Plattsburg Barracks, N. Y.
3 *Species of Anopheles that Transmit Human Malaria. F. Knab, Washington, D. C.
4 Prevalence of Intestinal Parasites in Philippines. E. S. Tenney, U. S. Army.
5 Adult Forms of Trypanosoma Americanum in Naturally Infected Animals. F. M. Johns, New Orleans.
6 Surgical Treatment of Elephantiasis and Elephantoid States Dependent on Chronic Obstruction of Lymph and Venous Channels. R. Matas, New Orleans.

1, 2 and 3.—Abstracted in THE JOURNAL, June 7, pp. 1820, 1821 and 1822.

Annals of Surgery, Philadelphia

July, LVIII, No. 1, pp. 1-144

7 American Surgical Association: Its Influence on Growth and Development of American Surgery. C. A. Powers, Denver.
8 Fibromatosis of Stomach and Its Relationships to Ulcer and Cancer. A. Thomson and J. M. Graham, Edinburgh.
9 *Diagnosis and Treatment of Fractures Involving Knee-Joint. J. B. Blake, Boston.
10 *Analysis and Study of 724 Major Amputations. W. L. Estes, South Bethlehem, Pa.
11 *Snapping Hip (Hanche a Ressort; Schnellende Hüfte). J. F. Binnie, Kansas City, Mo.
12 Five Cases of Suture of Heart. F. T. Stewart, Philadelphia.
13 *Aneurismorrhaphy. G. T. Vaughan, Washington, D. C.
14 Arteriovenous Anastomosis for Threatened Gangrene of Foot. L. Freeman, Denver.
15 Sarcoma of Femur. W. B. Coley, New York.
16 Cancer of Thyroid, and Its Extension to Lungs by Means of Blood-Vessels. F. J. Shepherd, Montreal, Can.
17 Hygroma Cysticum Colli: Its Structure and Etiology. C. N. Dowd, New York.
18 Exclusion of Bladder, an Operation of Necessity and Expediency. C. H. Mayo, Rochester, Minn.

9. **Fractures Involving Knee-Joint.**—Blake states that the five principle traumatic bone lesions involving directly or indirectly the knee are influenced less than might be expected by the fact that they invade the largest joint in the body. Trauma affecting the knee-joint is sufficient to produce fracture, causes fracture of patella most frequently, of femur next in order, and of tibia least often; in patients under 20 years such trauma usually causes separation of the lower femoral epiphysis. With the exception of sepsis, the other complications added to fractures in this region are: (a) greater difficulty in maintaining position of fragments; (b) greater limitation of motion after union has taken place; (c) in certain operative cases, an added danger, that of invading a joint with a solid body. The indications for treatment are similar to those applicable to other fractures except that non-absorbable materials should not be used within the limits of the knee-joint unless it is absolutely unavoidable, and the immobilization be practiced for a period longer than is advisable in fractures not involving joint cavities.

10. **Major Amputations.**—A comparative study of the earlier and later lists of amputations, Estes points out, shows that the clinician continues to regard the formerly adopted sites of preference the most desirable ones. The mediotarsal amputations have increased in number and have gained in favor against Syme's or the lower third of the leg amputations. Every increment of an extremity possible to save, without serious danger to the flaps and long disability of the patient should be retained. The exception to this is the upper third of the leg. It is better to amputate at the knee-joint than at this region. As regards the kind of flaps: for the forearm, anteroposterior flaps with the posterior one-quarter longer are preferred. All amputations of the arm, including those at the elbow, may be done by a circular or modified circular method. The adjustment of the flaps may usually be in an anteroposterior direction. The retraction of the anterior part of the flap at the elbow will convert a circular into an oval shaped flap, the posterior segment will be much longer. This will bring the line of union some distance above the end of the bone. At the shoulder-joint, also, anteroposterior flaps are preferred. The anterior flap includes the greater part of the deltoid muscle and is longer than the posterior one. The incision in the internal aspect of the extremity should be so placed as to give easy access to the axillary vessels, and they should be grasped and controlled as soon as practicable. Mediotarsal and tarsal amputations are preferred whenever practicable when amputation of the foot is required. It is especially necessary to obtain good, adequate flaps and cut the anterior tendons long enough to be secured by sutures to the posterior flap when forming the stump. Low down in the leg anteroposterior flaps are preferred but not the Teale method or any extraordinarily long anterior flap method. In other parts of the leg lateral flaps seem best.

At the knee-joint a long anterior and short posterior flap method is preferred. The patella may be removed or not, according to the conditions of the case. Lower third of the thigh to the hip-joint anteroposterior flaps with the anterior one longer are usually employed. Estes always shapes the flaps from without inward, never by transfixion. The average length of time in the hospital for amputation cases continues to be about twenty-two days. The mortality rate for single major amputations has been slightly decreased, viz., from 4.76 per cent to 4.36 per cent. The mortality-rate of double mixed amputations has been reduced from 23.68 per cent. to 11.11 per cent. The combined mortality of the two series is 4.56 per cent. for the single amputations. This is a very low mortality-rate for the class of injuries which required these amputations. The important factors in lowering the mortality of amputations for injuries are. 1. Saving of

blood. 2. Careful asepsis or antisepsis. 3. Discriminating when to operate. Operate as soon as the blood-pressure will permit. A systolic pressure below 80 should contra-indicate amputation.

11. **Snapping Hip.**—Binnie's patient complained of (1) A marked rubbing pain at the crest of right ilium when he carried a heavy weight. This had no relation to the occurrence of his second complaint. (2) When he jumped or carried a heavy weight there was an audible and palpable snapping at the right hip, which he attributed to the head of the femur becoming dislocated, and which he could produce voluntarily. When the patient leaned slightly to the right side the tip of the eleventh rib touched the iliac crest, causing a painful rubbing on motion. There was now tenderness at this point. This position of bending toward the right was often assumed in an endeavor to prevent snapping of the hip with its disagreeable sensation and feeling of weakness. When sustaining most of his weight on the right foot, knee extended, if the patient leaned toward his left, a thick band of tissue could be felt passing from the lower and anterior part of the trochanter major upward and backward toward the iliac crest. On extending the hip this band slid off the trochanter backward. If he twisted himself so that the right iliac bone moved forward the thickened band slipped forward on the trochanter with a sharp "snap," which was palpable, audible at several feet and the jerking movement of the band was quite visible. If the band was held backward with the fingers no "snap" occurred.

At operation it was found that there was a sausage-shaped thickening of the fascia posterior to the wound and to the great trochanter (the fascio-gluteal tract of Heully). A flap of the periosteum was raised by longitudinal incision from the femur at the lower part of the trochanter major and the posterior lip of the incised fascia lata was sutured to this and to the vastus externus muscle near its origin. The anterior lip of fascia was sutured to the posterior in such a manner as slightly to overlap the original line of suture. The skin wound was closed and the limb fixed in splints. The patient was seen a month after operation, when he was able to work. There was no recurrence of the snapping.

13. **Aneurysmorrhaphy.**—Vaughan reports two cases. 1.—Left iliofemoral fusiform aneurysm; obliterative method, with ligation of the external iliac artery. Recovery. Death later. 2.—Popliteal aneurysm. Right side. Reconstructive method. Recovery.

Archives of Ophthalmology, New Rochelle, N. Y.

July, XLII, No. 4, pp. 345-456

19 Parinaud's Conjunctivitis; Mycotic Disease due to Hitherto Undescribed Filamentous Organism. F. H. Verhoeff, Boston.
20 Hypophysis Disease (from Ophthalmologic Standpoint), with Report of Two Cases. E. Hill, Chicago.
21 Epibulbar Carcinoma; Histologic Examination of Specimen. G. E. de Schweinitz and E. A. Shumway, Philadelphia.
22 Toxic Amblyopia due to Tobacco Alone. M. L. Foster, New Rochelle, N. Y.
23 Ophthalmia in Form of Conjunctival Patches. F. Falchi, Pavia.

Boston Medical and Surgical Journal

July 17, CLXIX, No. 3, pp. 73-108

24 Certain Features of Work of Late J. Hughlings Jackson of London. J. J. Putnam, Boston.
25 Addison's Disease: Clinical and Pathologic Observations. G. M. Piersol, Philadelphia.
26 Experimental Production of Gastric Ulcers by Intravenous Injection of Clumped Colon Bacilli. E. C. Steinharter, Cincinnati.
27 *End Results of Operative Treatment in Thirty-Three Cases of Spastic Paralysis. H. E. Harris, Providence, R. I.
28 *Study of 197 Cases of Endocarditis in Children at Massachusetts General Hospital; with Special Reference to Treatment of Acute Endocarditis. L. W. Gilbert, Brooklyn.
29 Fracture of Carpal Scaphoid in Childhood and Adolescence. W. P. Coues, Boston.

27. **Operative Treatment in Spastic Paralysis.**—Excellent results in Harris' cases have followed subcutaneous tenotomies, whether they were zigzag or otherwise, and this has an important bearing on the question as to whether there is danger of permanent and undesirable lengthening of the tendo achillis after free division, and such conditions were especially looked for in the twenty-two cases discussed and none were noted. It would seem, therefore, that the open operation is not at all necessary. It also seems to Harris that alcoholic injections have not in the cases reported prevented the return of spastic contractures. Children who have not taken a step have been able to walk as a result of simple division or resection of the adductors and ham strings, and apparently much can be expected from the Tubby procedure of transferring the pronator radii teres to work as a supinator. Although the operative procedure may be that properly suited to the individual case, Harris emphasizes that without careful after-treatment and the long continued after-use of plaster and apparatus the various operations are likely to be of little use.

28. **Endocarditis in Children.**—Gilbert claims that acute endocarditis should be considered as acute over a much longer period than has been the custom. Treatment should be carried out over months and perhaps years, until all possible signs of acute disease have disappeared, and even then, until adolescence is passed, at least a certain amount of restraint should be exercised.

California State Journal of Medicine, San Francisco

July, XI, No. 7, pp. 253-296

30 Intratracheal Insufflation Anesthesia. S. T. Pope, San Francisco.
31 *Recurrence of Hydrocele after Radical Treatment. D. Tai, San Francisco.
32 Nature of Disease. W. T. Councilman, Boston.
33 *Medical Treatment of Gall-Bladder Disease. D. Fulton, Los Angeles.
34 *Treatment of Tuberculosis with Soluble Vaccine. J. O. Hirschfelder, San Francisco.
35 *Why Does Cancer Attack Face. A. Davidson, Los Angeles.
36 Evolution in Study of Heart. H. I. Wiel, San Francisco.
37 *Stereo-Roentgenography in Pulmonary Tuberculosis. W. W. Boardman, San Francisco.
38 Two Cases of Cerebellar Disease Followed by Autopsy. W. F. Schaller, San Francisco.
39 Factors in Physiology of Bone in Relation to Surgery. A. L. Fisher, San Francisco.
40 *Arneth Blood-Count in Pulmonary Tuberculosis: Report of Eighty Cases. R. S. Cummings, Los Angeles.
41 Differential Diagnosis of Appendicitis and Nephrolithiasis M. Krotoszyner, San Francisco.
42 Skin Reaction after Cowpox Vaccination. J. N. Force, Berkeley.
43 Chronic Disease of Gall-Bladder and Appendix as Etiologic Factors in Production of Digestive Symptoms. W. F. B. Wakefield, San Francisco.
44 State Care for Crippled Children in California. D. C. McMurtrie, New York.

31. **Recurrence of Hydrocele.**—Although eversion is only a palliative measure and does not reach the determining factor, Tait says it will, when properly performed, prove eminently satisfactory in over 90 per cent. of hydroceles. The medium size, thin wall, chronic hydroceles are the most favorable for eversion. Longuet's method of eversion, without delivery of the sac, is the simplest, safest and least liable to recurrence. It frequently succeeds even in very thick wall hydroceles. A few symptomic hydroceles recur after eversion. Recurrence frequently results from failure to stitch the edges of the everted tunica vaginalis. Andrews' bottle operation is a failure; it is a step backward in the history of the therapeutics of hydrocele, and its adoption accounts for a large proportion of the recurrences noted in this country. Excision is preferable to eversion in the rare cases of chronic pachyvaginalitis. The so-called total excision of the tunica vaginalis is not total, and recurrences following its use have been reported. Excision of the unopened hydrocele is the only complete method of removing the entire excreting surface. It has not been resorted to in thick walled hydroceles; in thin wall hydroceles it is an unnecessarily complicated procedure. Of the numerous objections made by conservatives to the radical treatment of hydrocele none resists either a thorough clinical or the experimental test. The protective rôle of the tunica vaginalis has been overestimated. Under strictly aseptic conditions experimental eversion of the tunica is not followed by atrophy of the testicle; it may produce a mild peritesticular sclerosis.

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33. **Treatment of Gall-Bladder Disease.**—Perhaps in no other abdominal conditions, says Fulton, is complete rest more indicated than following acute manifestations of gall-bladder disease. Following acute cholecystitis and even after gall-stone colic, it is well to keep the patient in bed for several days after each attack, and after all inflammatory manifestations have passed off, and until no tenderness on pressure over the gall-bladder remains, a period which may extend from days to weeks, according to the severity of the case. By more careful insistence on rest, chronicity of the disease may frequently be avoided.

34. **Soluble Vaccine in Tuberculosis.**—For about a year and a half Hirschfelder has conducted experiments in the hope of obtaining an extract of the endobody of the *Bacillus tuberculosis*. Such a substance was derived from the digestion of the bacillus with pepsin. The living bacillus was treated with acidulated pepsin at 38 degrees, the action of the ferment stopped with alkali and the solution filtered through a Pasteur filter. It was found that pancreatin did not work quite as satisfactorily. The extract was repeatedly standardized on tuberculous guinea-pigs, and after an absolutely reliable preparation had been made and the method perfected so that the dosage could be accurately determined, a number of cases of tuberculosis were treated. The results have been very encouraging, but the number of cases has been too small and the duration of the observation too short to permit more than this provisional announcement of the method for the present. In none of the patients treated were any unfavorable effects noted. Rapid improvement has been observed both subjectively and objectively, the roentgenogram showing the clearing up of the tuberculous deposits in the lungs. Several cases with tuberculous laryngeal ulcers have been observed, and in all of them rapid healing of the ulcers has been noted by the laryngologist. Bone tuberculosis of years' standing has been seen to improve and the progress has been recorded by the roentgenogram.

35. **Why Does Cancer Attack Face?**—Davidson's theory is that those regions are most subject to rodent ulcer that are least mobile, and consequently least vitally nourished. The growth of the beard or the use of the razor stimulates the functional activity of these parts. The cheeks are active in mastication; the upper lid does practically all the dusting of th eyeball. The cutaneous structures at the corner of the eye, the nose itself, the ears and malar prominences have no underlying muscles, no mobility, no stimulation to activity. If the abortive gland theory is correct, Davidson says, both sexes ought to be equally affected, but according to his figures only 12 per cent. were found in women. This disparity between the sexes he accounts for in part by the greater care expended on the face by women. The copious use of facial creams, frequent massage, etc., maintain a greater vitality in the skin. Then, too, women are endowed with an extra layer of adipose that still further maintains the tonicity of the skin. The more degenerate, or less vital the structure, the more the liability to cancer. In the general atrophy of the skin incidental to old age, those places devoid of all subcutaneous mobility are most liable to rodent ulcer. That seems to Davidson the most plausible explanation of the peculiar distribution of facial cancer.

37. **Stereo-Roentgenography in Lung Tuberculosis.**—Boardman thinks he is justified in saying that the small pendulous heart, calcified cartilages, narrow interspaces and excessive sloping of the ribs, are not only valueless, but are absolutely misleading, if considered as positive signs in the roentgenographic diagnosis of pulmonary tuberculosis. The hilus shadows and the fine markings in the lung fields, he regards as composite shadows cast by the bronchi, by the blood-vessels with their contained blood, and by the fibrous and lymphatic tissues accompanying these structures. Pulmonary tuberculosis produces alterations in these shadows as seen in stereoroentgenograms which he believes to be characteristic of this disease. And finally, that there can be no doubt of the great value of stereo-roentgenography as an aid in the diagnosis of pulmonary tuberculosis and other pulmonary affections when considered in connection with the history and physical examination.

40. **Arneth Blood-Count in Lung Tuberculosis.**—As the result of his study of eighty cases Cummings concludes that the Arneth count has no diagnostic value but assists in prognosis only. In extensive tuberculous inflammation of the lungs there is an increase of the neutrophil leukocytes containing one, two and three nuclei at the expense of those containing four and five nuclei. As a patient becomes worse the index gradually becomes higher. As a patient improves his index gradually becomes lower. An index over 75 as a rule is found in patients with a bad prognosis. Cummings says that if one follows the Arneth count absolutely he will frequently find himself mistaken, but it will be found of positive value in questionable cases as corroborative evidence only.

Canadian Medical Association Journal, Toronto

July, III, No. 7, pp. 548-642

45 Fractures and Their Treatment. J. A. Hutchison, Montreal.
46 Congenital Hypertrophic Pyloric Stenosis. R. E. McKechnie, Vancouver, B. C.
47 Endocarditis in Influenza: Report of Case. J. H. McIlhedran, Toronto.
48 Responsibility for Advanced Case of Tuberculosis. C. H. Vrooman, Kamloops, B. C.
49 Aneurysm of Posterior Tibial Artery, Rupture of Sac: Operation by Matas Method. A. Primrose and T. D. Archibald, Toronto.

Colorado Medicine, Denver

July, X, No. 7, pp. 205-228

50 Treatment of Pott's Disease of Spine. G. B. Packard, Denver.
51 Treatment of Lateral Curvature of Spine. H. W. Wilcox, Denver.
52 Problem of Mental Defective. R. F. Darnall, Pueblo.
53 Device for Intestinal Anastomosis without Suture. F. N. Cochems, Salida.
54 Closure of Abdominal Wound after Cellotomy. W. W. Grant, Denver.

Delaware State Medical Journal, Wilmington

June, IV, No. 7, pp. 1-26

55 Cesarean Section in Preference to High Forceps in General Practice. W. Linn, Wilmington.

Illinois Medical Journal, Chicago

July, XXIV, No. 1, pp. 1-84

56 Stenosis of Pylorus in Infancy. C. L. Scudder, Boston.
57 *Cause of Bronchial Asthma. R. H. Babcock, Chicago.
58 *Phlebostasis; New Treatment for Broken Heart Compensation. S. Lilienstein, Bad Nauheim, Germany.
59 *Relief of Metatarsalgia. W. Van Hook, Chicago.
60 Topography of Tympanic Cavity. J. A. Cavanaugh, Chicago.
61 Economic Condition of Profession. C. J. Whalen, Chicago.

57. **Cause of Bronchial Asthma.**—In every case of asthma, Babcock says, search for some focus of chronic infection in the nasal accessory sinuses, in a chronic hyperplastic ethmoiditis, or in some closed cavity in any other part of the body, and finding it, advise its removal by surgical interference. If the absorption of a foreign protein can be prevented in this manner, it is likely that the asthmatic seizures will be prevented or greatly ameliorated. Of course, in cases of asthma traceable to animal or vegetable emanations or to some article of food to which the person has become sensitized, we can do no more than advise avoidance of exposure to the exciting cause. Nevertheless, the understanding of the etiology of this distressing malady certainly gives us a basis for rational and effective therapeutics in many instances that otherwise might go on unrelieved.

58. **Phlebostasis.**—The "phlebostat," which Lilienstein has devised as an adjunct in the treatment of weakened heart action, consists of two hollow cuffs, as they are used with a tonometer; of a manometer and a rubber bulb. A cuff is placed around each upper arm. These cuffs are connected by a tube and into them air is pumped by means of the bulb. A pressure of 80 to 100 mm. mercury is usually sufficient. At this pressure the pulse is not entirely obliterated, only the venous flow from the arm is retarded, with the result that a peripheral congestion ensues. After one or one and one-half minutes, the air is allowed to escape, and this proce-

dure is repeated four or five times in succession, so that the treatment takes about ten minutes. The "phlebostat" may be applied, according to the condition of the heart, every day or every other day. In patients suffering from cardiac dyspnea, full feeling in the head, feeling of oppression, etc., a marked improvement is immediately felt. The patients assert that they breathe more freely, that they feel lighter, the oppressing feeling in the head disappears, etc.

59. **Relief of Metatarsalgia.**—The relief of early discovered cases of this disease, Van Hook says, may sometimes be effected by changing the poor shape and style of shoe to one of a broad, thick-soled, low-heeled type. But the final remedy lies, in difficult cases, in the excision of the branches of the plantar nerve which are affected by the pressure. The excision may be effected by opening over each affected branch of the nerve; but a single incision can sometimes be used for two branches. Van Hook calls attention to the fact that these nerves should be attacked at a point beneath the proximal extremities of the metatarsal bones. A single incision at this point gives an excellent opportunity to attack the nerve before its final major divisions have taken place. Furthermore, the incision at this point does not leave a scar where pressure can subsequently cause irritation and suffering. Hyperesthesia frequently follows these operations for some months. But, as a rule, the discomfort disappears and comfortable function is restored.

Journal-Lancet, Minneapolis

July 15, XXXIII, No. 14, pp. 389-416

62 University of South Dakota. C. P. Lommen, Vermillion, S. D.
63 Co-Relation of Appendicitis, Mucous Colitis and Membranous Pericolitis. A. E. Benjamin, Minneapolis.

Kentucky Medical Journal, Bowling Green

July 1, XI, No. 13, pp. 529-598

64 Anesthesia and Anoci-Association. G. W. Crile, Cleveland.
65 Value of a Purpose. H. W. Browder, Franklin.
66 Blood-Pictures in Tuberculosis. E. Morris, Sulphur.
67 Influence of Climate in Treatment of Tuberculosis. N. Evans, Murray.
68 What Is Tubercle of Tuberculosis? C. H. Todd, Owensboro.
69 What Caused It and How Prevent It? E. A. North, Newport.
70 Early Diagnosis of Tuberculosis. J. C. McCreary, Cave City.
71 Roentgen-Ray as Diagnostic Agent. W. E. Irvin, Owensboro.
72 Cyst of Pancreas, with Report of Case. S. B. Marks, Lexington.
73 Cervical Lacerations. J. O. Jenkins, Newport.
74 La Grippe. H. C. Chance, Cumberland Gap.
75 Cardiac Hypertrophy and Renal Diseases. J. E. Wilson, Butler.
76 Rational and Practical Sanitation and Hygiene. W. G. Kingsolving, Eddyville.
77 Diagnostic Significance of Blood-Pressure. V. Blythe, Paducah.
78 Gonorrhea of Female. J. S. Johnson, Barlow.
79 Pellagra. H. P. Sights, Hopkinsville.
80 Urologic Aspect of Microscope as Localizer of Disease. C. L. Wheeler, Lexington.
81 Salvarsan, a Specific, in Treatment of Pellagra. B. C. Rose, Bryantsville.
82 Malaria. R. T. Hocker, Arlington.
83 Abortion. S. M. Hopkins, Gardnersville.
84 Exophthalmic Goiter. O. W. Brown, Lenoxburg.
85 Intestinal Toxemia of Childhood. L. C. Redmon, Lexington.
86 Abortion. F. D. Haston, Arjay.
87 Asthma. J. E. Fox, Marion.
88 Volvulus. S. P. Oldham, Sorgho.
89 Ear-Ache, Cause and Treatment. W. J. Thomassen, Newport.
90 The Food We Eat. T. A. Frazer, Marion.

Medical Record, New York

July 19, LXXXIV, No. 3, pp. 93-138

91 Short Study of Career of Paracelsus. R. C. Newton, Montclair, N. J.
92 *Experiences with Abderhalden Test in Diagnosis of Pregnancy. J. Gutman, Brooklyn, and S. J. Druskin, Manhattan, N. Y.
93 *Bowel Doormaker: with Description of Technic of Operation for Short-Circuiting Bowel. R. T. Morris, New York.
94 Mental Morbidities of Conjugal State. T. H. Kellogg, New York.
95 Unusual Case of Renal Hematuria. W. G. Vincent, New York.
96 Castration and Operations for Varicocele and Hydrocele without Wounding Scrotum. C. A. Buckin, Glasgow, Scotland.
97 Hemorrhoids and Office Practice. E. C. Beck, New York.
98 Leprosy and Knife. E. S. Goodhue, Honolulu, Hawaii.
99 Administration of Oxygen to Fetus. G. P. Shears, New York.

92. **Abderhalden Test in Diagnosis of Pregnancy.**—Reviewing their results and comparing them with those obtained by the majority of investigators, the authors found that the Abderhalden test is perfectly reliable and commendable. Schlimpert and Hendry in their last group of seventy-nine cases obtained perfect results, Henkel in forty cases reports perfect results, Abderhalden's 200 cases, only one discrepancy, McCord's 240 tests with practically no failure, and a number of such other reports certify as to the value, reliability and utility of the test, provided the latter is performed by competent workers and strictly in accordance with prescribed rules. That the test is of inestimable value in pregnancy (especially in its differential diagnosis) has now been fairly well established, but its usefulness is not limited to pregnancy. Indeed, the field of usefulness of this serologic method of diagnosis seems at present exceptionally promising. Ferments seem to be the active agencies in the destruction of tissues in a great number of diseases, such as carcinoma, fevers, eclampsia, diseases with exudates, with parenchymatous degenerations, etc., and low dialyzable proteins have already been found in the serums of those affected with these disturbances. This fact has already been utilized by some of the workers mentioned previously in the diagnosis of nephritis, myxedema, Basedow's disease, syphilis, etc. Epstein reports most interesting results of his experiences by means of the Abderhalden serologic test in the diagnosis of carcinoma, citing perfect findings in a considerable number of cases. To a certain extent the test is objectionable because somewhat complicated and attended with some difficulties, its performance being therefore necessarily limited to special laboratories. The simplification of the test is desirable, so that it can be placed within reach of every practitioner. The authors have begun an attempt toward such simplification and have so far succeeded in making from placental tissue an active and durable extract, which will be enclosed in specially shaped dialyzers, and the rest of the procedure so modified as not to require special qualifications on the part of its performer. As they have not as yet sufficiently completed their experimentations, Gutman and Druskin postpone its announcement until a later date.

93. **The Bowel Doormaker.**—The doormaker used by Morris is an instrument for saving time, avoiding hemorrhage and lessening the degree of peritoneal soiling in an operation for short-circuiting the bowel. The instrument is 12 inches in length, carrying one blade, which is fenestrated, and another blade in the form of a blunt wedge which fits into the fenestrum (fenestrum 2½ inches long). The blades are bent away from the long axis of the shank at an angle of thirty degrees, for the purpose of avoiding pressure on the sacral promontory. When used for short-circuiting the bowel this instrument is passed into the rectum after wrapping the handle in a temporary sleeve of gauze or rubber dam. The object of the sleeve is to prevent the bowel mucosa from slipping between the shafts of the handle and becoming pinched accidentally. When the doormaker is in the rectum a customary opening is then made in the midline of the abdomen, just above the pubes, for purposes of bowel manipulation. The distal part of the ileum and the distal part of the sigmoid colon are brought into the abdominal incision together, the doormaker is pushed gently up to this point by an assistant and is then opened. The fenestrated blade remains in the rectum or distal part of the sigmoid bowel, while the wedge blade is passed through a puncture in this part of the colon and also through a corresponding puncture in the wall of the ileum. The jaws of the instrument are then snapped together and held together by an ordinary locking device on the handle. A narrow strip of wall of ileum and of wall of colon are deprived of blood-supply when wedged into the fenestrated blade by the wedge blade. A few Lembert sutures, at points where they are seen to be needed, will suffice to prevent leakage from the punctures in the walls of the ileum and colon.

The next step consists in angulating the ileum at a point situated near to but distally from the doormaker, for the purpose of turning contents of the ileum toward the door

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subsequently. Sutures are introduced for the purpose of making this angulation permanent. The sigmoid colon is angulated at a point situated near to and proximally from the doormaker, for the purpose of preventing antiperistalsis from carrying rectal contents back into the colon subsequently. Sutures are introduced for the purpose of making this angulation of the sigmoid permanent like that of the ileum. The abdominal incision is closed. Neither the ileum nor the sigmoid colon are angulated to the point of causing obstruction. If reversed peristalsis is excited by the angulation—before the door has become opened—it can be quieted by the employment of opium. At the end of forty-eight hours the handle of the instrument, which protrudes from the rectum, is pulled on gently to determine if the wedge jaw has cut its way through the bowel walls. When it has done this the instrument is removed, the door having then been completed between ileum and colon by saprophytic or digestive destruction of the tissue which was wedged into the fenestrum and deprived of its blood-supply. Patients complain about the presence of the instrument in the rectum, but this complaint is less than the complaint about general distress after the more severe operative work of the Lane operation. After the door has been made there are many bowel movements daily for a while, because of the comparatively small new storage room of the rectum, and because the rectum is not accustomed to receiving contents directly from the ileum. Patients will complain about the frequent bowel movements. Starch enemas soothe irritated rectal mucosa, and bowel movements after a while drop down to one, two or three daily—varying with different patients.

New York Medical Journal

July 19, XCVIII, No. 3, pp. 109-156

100 Case of Dementia Praecox with Autopsy. C. W. Burr, Philadelphia.
101 Internal Secretions as They Concern Gynecologist. S. W. Handler, New York.
102 Faculty of Paris in Seventeenth Century. F. Baker, Washington, D. C.
103 Sense of Smell as Aid in Diagnosis. R. E. Coughlin, Brooklyn.
104 Creating False Motor Paths. M. Strunsky, New York.
105 Tuberculosis in United States Army: Admission Rates for Seventeen Years. I. W. Brewer, Taughannock Falls, N. Y.
106 Causes of Crime. P. E. Bowers, Michigan City, Ind.
107 Diabetes Mellitus: Treatment with Bacillus Bulgaricus Cultures. J. W. Beveridge, New York.
108 Suggested Improvement in Allis Ether Inhaler. N. Du Val Brecht, Washington, D. C.

Oklahoma State Medical Association Journal, Muskogee

July, VI, No. 2, pp. 63-102

109 Lights and Shadows in Practice. S. H. Landrum, Altus.
110 Intestinal Obstruction. W. E. Dicken, Oklahoma City.
111 After-Treatment of Infantile Paralysis. W. G. Brymer, Dewar.
112 Schistosomiasis. J. C. Johnstone, Lawton.
113 *New Procedure for Relief of Retroverted Uterus. J. F. Kuhn, Oklahoma City.
114 Childhood as Factor in Profession of Medicine. E. F. Hayden, Tulsa.
115 Obstetric Ideals in Rural Practice. D. L. Garrett, Altus.
116 Amputation of Thigh of Patient 108 Years of Age, Followed by Recovery. F. S. Clinton, Tulsa.

113. **New Procedure for Retroverted Uterus.**—The following method of procedure is advocated by Kuhn. The pampiniform plexuses are both ligated. The ligatures are placed at the pelvic border first and firmly tied in front, leaving long ends of sutures, which are clamped. Next, ligatures are placed at the uterine border, tied in front, and the long ends clamped. The engorged veins are now incised and the static blood expressed. Then the opposite side is treated in like manner. The result of this first step is to draw the uterus forward in the pelvis and leave the infundibulo-pelvic ligaments greatly relaxed. So the logical second step is the plication of these ligaments. This is accomplished as follows: An incision is made on the anterior border of the broad ligament over the infundibulo-pelvic ligament, exposing it for about 1½ inches, or as much as will be necessary to take up the slack. A running suture is so placed that when drawn tight and tied it will fold the ligament and hold it firmly. A purse-string suture is now placed in the peritoneal incision. If these steps are carefully done, no raw surfaces will be exposed and no hematomas will result. The uterus now lies in its normal position and it cannot be forced into the culdesac to stay, always easily righting itself, and it will remain in its normal position long enough for intra-abdominal pressure to exert itself normally and do its part in affording permanent support.

Philippine Journal of Science, Manila

April, VIII, No. 2, pp. 67-156

117 *Bone Lesions of Small-Pox. W. E. Musgrave, A. G. Sison and B. C. Crowell, Manila.
118 Status Thymico-Lymphaticus Among Filipinos. B. C. Crowell, Manila.
119 *Primary Sarcoma of Small Intestine. R. W. Hammack, Manila.
120 Tumors of Hypophysis Cerebri. J. S. Hilario, Manila.
121 Outbreak of Plague in Manila during 1912. V. G. Heiser, Manila.
122 Plague Outbreak in Iloilo. C. Fox, Manila.
123 Some Carbohydrate Reactions of Dysentery Bacillus. C. S. Butler, Canacao.
124 Isolation of Diplococcus Intracellularis Meningitidis (Weichselbaum) from Case of Cerebrospinal Meningitis in Native of Philippines. D. G. Willets and O. Schobl, Manila.
125 *Duration of Passive Immunity against Tetanus Toxin. E. H. Ruediger, Manila.
126 Appendicitis. P. K. Gilman, Manila.

117. **Bone Lesions of Small-Pox.**—Twelve cases were studied by the authors. Skiagrams were taken of the affected bones and joints, and in one case a post-mortem examination was made. In this preliminary report they stated that "One of the most striking features of the deformities is the constant location of the lesions in the upper extremities." Further study has shown this statement to be an error. Any of the bones and joints of the body may be affected. However, the long bones and their articulations are more frequently affected than are other bones and joints. In the order of frequency, the following locations of the lesions were noted: (1) the bones and joints of the upper extremity; (2) of the lower extremity; (3) of other parts of the body. The bones of the upper extremity may be involved in the following order of frequency: (a) Forearm (radius and ulna); (b) arm (humerus); (c) hand (carpal, metacarpal and phalanges—proximal and distal.

The bones of the lower extremity may be involved in the following order: (a) Leg (tibia and fibula); (b) thigh (femur); (c) foot (tarsal) metatarsal and phalanges—proximal and distal). In regard to age, the bone lesions usually are observed in persons with a history of having had small-pox during early childhood, but the deformity may follow variola contracted at any time before the complete ossification of the bones. The greatest age at which such a complication of variola has been observed occurred in a boy 14 years old. The close resemblance in the character of the deformities, their constant association with a history of small-pox during early life, and the absence of similar lesions under other conditions seem to warrant the conclusions that the deformities are a complication of variola.

Summarizing the conditions in the bones, it is apparent that the diaphyses of the bones are shorter than normal and that the ends of the bones, representing the original epiphyses, are much altered in configuration. In the shafts of the bones which were removed for examination there was no apparent change from normal in contour or diameter. Mesial longitudinal section through the ends of the bones showed complete ossification of the epiphyseal extremities, and no indication of the line of junction between the epiphyses and diaphyses was present. The deformities of the epiphyses must, therefore, have occurred before the period of full growth and the interference with the longitudinal growth of the diaphyses must have been due to some disturbance at the line of junction with the epiphyses. The microscopic examination of the bones showed nothing which would further elucidate the nature of the active process. Complete ossification had taken place, and decalcified sections of the bones showed no alterations from the normal condition of bone growth at this period of life. The epiphyseal line of growth was obliterated and the

compact bone and marrow bore normal relations. The only alteration was in the size and conformation of the epiphyses.

119. **Primary Sarcoma of Small Intestine.**—Three cases of primary sarcoma of the small intestine are analyzed by Hammack. Of the types of sarcoma found, lymphosarcoma is the most frequent, but spindle-cell, round-cell and melanosarcomas as well as endotheliomas occur. The tumor most frequently occurs as a spreading, infiltrating growth, completely or nearly encircling the intestine, but may occur as a polypoid mass projecting into the lumen. The growth is usually confined to the intestinal wall, leaving the serosa intact. Ulceration, on the other hand, is frequent and may cause perforation. It is remarkable, however, that very extensive infiltration of the intestinal wall, including the mucosa, can take place without ulceration. Dilatation is more frequent than stenosis. This is apparently due to the wide-spread infiltration and destruction of the muscular coats with possibly the additional factor of accumulation of intestinal contents on account of the absence of peristalsis. The annular form of the tumor, however, can cause constriction. When complete obstruction occurs, it is most often by direct extension from the metastatic growths in the lymph-nodes. All of the cases presented by Hammack have been lymphosarcomas, and all have exemplified the annular form, while one shows the infrequent condition of stenosis. In all there have been metastatic growths in the abdominal lymph-nodes with more or less wide-spread extension from these. In but one case, in which there was a small nodule in the heart, was there metastasis beyond the abdomen.

125. **Immunity against Tetanus Toxin.**—Ruediger found that the subcutaneous injection of 1,500 units of antitetanic serum from horse into horse confers passive immunity of between six and eight weeks' duration. Guinea-pigs subjected to repeated inoculations with antitetanic serum from the horse do not acquire a tolerance as is shown by the longer period of immunity. After repeated injections of normal horse-serum into guinea-pigs, passive immunity, following the injection of antitetanic serum from the horse, is of longer duration than it is in untreated guinea-pigs.

Southern Medical Journal, Nashville

July, VI, No. 7, pp. 423-492

127 *Diagnosis of Malaria. G. E. Henson, Jacksonville, Fla.
128 *Incidence of Malaria in Puerperium. J. V. Freeman, Jacksonville, Fla.
129 *Some Mooted Points on Feeding of Infants. J. D. Love, Jacksville, Fla.
130 Pellagra in Canal Zone: Its Etiology and Treatment. W. E. Deeks, Ancon, C. Z.
131 *Treatment of Plague. I. I. Leman, New Orleans.
132 Eugenics. F. R. Harris, Henderson, N. C.
133 *Roentgenograph as Aid to Diagnosis and Treatment of Gastro-Intestinal Lesions. H. P. Cole, Mobile, Ala.
134 Etiology and Treatment of Cystitis in Women. F. W. Griffith, Asheville, N. C.
135 Pyelitis as Clinical Entity. P. I. Nixon, San Antonio, Texas.
136 Chronic Nasal Diphtheria. C. M. Miller, Richmond, Va.
137 Plea for Medical Ethics and Remonstrance Against Contract Practice. E. T. Camp, Gadsden, Ala.

127, 128.—Abstracted in THE JOURNAL, Nov. 30, 1912, pp. 1999 and 2000.

129. **Feeding of Infants.**—Concerning infant feeding, Love says, "the more you read about it the more confused you are likely to get, for, it must be confessed, much that has been written on the subject serves only to darken counsel." He adds that the physician who has a system of infant feeding that is yielding him satisfactory results need be in no hurry to make a change. It is, however, necessary that the physician should understand at least the chemical composition of any food he administers; that he should be able to alter the relative composition of the constituents to the varied conditions of a child; that he should acquire such a familiarity with his system of feeding that he may be able correctly to interpret any phenomenon of digestion and adapt his system to the exigencies of the occasion. The physician who can do this is following a system that cannot be improved on, and until there is a clarification of the haze of ideas which now envelop us, until a definite proved plan of feeding is devised, will, if properly understood and adapted to the varied conditions of a child's digestion, yield better results than the most perfect system in vogue, if inadequately mastered and imperfectly handled.

131. Abstracted in THE JOURNAL, Dec. 14, 1912, p. 2182.

133. **Roentgenograph in Gastro-Intestinal Lesions.**—Cole is convinced that the roentgenoscopy of the gastro-intestinal tract offers the greatest modern aid to the clinical diagnosis of lesions of these viscera, and accurate knowledge of the modern views of the gastro-intestinal topography and its motor phenomena should to a large extent obviate the necessity for exploratory surgery. This will assuredly facilitate the establishment of sound surgical procedures for the relief of many hitherto vague pathologic lesions of the gastro-intestinal tract.

Tennessee State Medical Association Journal, Nashville

July, VI, No. 3, pp. 95-128

138 Anoci-Association with Special Reference to Abdominal and Exophthalmic Goiter Operations. G. W. Crile, Cleveland.
139 Treatment of Endometritis and Salpingitis. J. H. Carter Memphis.
140 *After-Treatment of Surgical Cases. L. E. Burch, Nashville.
141 Disposal of Dead. S. M. Miller, Knoxville.

140. Abstracted in THE JOURNAL, April 19, p. 1249.

West Virginia Medical Journal, Wheeling

July, VIII, No. 1, pp. 1-36

142 Syphilis in Light of Modern Knowledge. V. C. Pedersen, New York.
143 Cesarean Section. H. H. Carr, Fairmont.
144 Roentgen-Ray and Its Possibilities in Scientific Research. R. H. Pepper, Huntington.
145 Albuminuric Retinitis of Pregnancy. L. C. Covington, Charleston.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

June, VII, No. 2, pp. 183-338

1 Final Report of Luangwa Sleeping Sickness Commission of British South Africa Company, 1911-1912. A. Kinghorn, W. Yorke and L. Lloyd.
2 Non-Identity of Trypanosoma Brucei (Plimmer and Bradford, 1899) with Trypanosome of Same Name from Uganda Ox. J. W. W. Stephens and B. Blacklock.
3 Sex and Age of Africans Suffering from Trypanosomiasis. J. L. Todd.
4 Identification of Pathogenic Entameba of Panama. S. T. Darling.
5 New Tsetse Fly from Congo Free State; and Occurrence of Glossina Austeni in German East Africa. R. Newstead.
6 Examination of Root of Ipomoea from Rhodesia. P. H. Marsden.

Bristol Medico-Chirurgical Journal

June, XXXI, No. 120, pp. 97-192

7 Course of Pernicious Anemia in Older Persons. J. M. Clarke.
8 Methods of Diagnosis in Gastric Cancer. J. M. Fortescue-Brickdale.
9 *Paroxysmal Edema of Lungs. C. E. S. Flemming.
10 Two Cases of Urinary Calculus. C. A. Moore.
11 Urinary Products of Intestinal Intoxication. G. H. Almond.
12 Recent Cases of Epidemic Cerebrospinal Meningitis. J. R. Charles.
13 Serous Pleurisy due to Pneumococci and Tubercle Bacilli. F. H. Edgeworth.
14 What Is An Accident? C. Corfield.
15 The Tuberculosis Officer and His Work. L. J. Short.
16 Third South Midland Field Ambulance. A. W. Prichard.

9. **Paroxysmal Edema of Lungs.**—In twenty-seven years' private practice Flemming has recognized four cases. He describes the condition as follows: The attack most often commences with some irritation in the throat, tickling and feeling of dryness with slight cough, and the patient has a vague fear of some serious happening. In later attacks this fear amounts almost to terror. He cannot, dare not, lie down; breathing at once becomes rapid, the face looks anxious and is pale. There is generally, but not always some cyanosis

with the pallor. The skin is cold and moist; there is a sense of suffocation; breathing is oppressed and urgent; cough grows more distressing, and there is some expectoration of frothy coagulable fluid, which is frequently blood-stained; the chest is rapidly filled with noisy râles; the pulse is small and quick; breathing becomes more distressing; expectoration at times becomes more profuse, but this is not by any means always the case.

This condition continues for, perhaps, half an hour or an hour and a half. Gradually the breathing becomes deeper, easier and quieter, the pulse is fuller and less rapid, the skin resumes its normal color and warmth; the patient, though exhausted, is thankful for the relief, but too nervous of a return of the symptoms to sleep soundly. Air now enters the chest freely, but râles persist over the greater part of one or both lungs. In one or at most two days all physical signs of the edema have disappeared, and the attack is a thing of the past, to return, however, it may be in a week or two, it may be not for months. In one of Flemming's cases the second attack was fatal; in another attacks recurred at irregular intervals for more than two years, the patient dying eventually of heart-failure following shingles.

The onset was nearly always at night, within two or three hours of bedtime. An attack was generally attributed to one of those things that happen so frequently as to make them possibly mere coincidences, e. g., worry, excitement, a cold wind, a hot day, fatigue, some food that might not have agreed, being in a crowded room, or going upstairs. Two of Flemming's patients were men, two women. The youngest was 54, the others 68, 73 and 70 at the time of their death. It bears a curious resemblance to cardiac asthma in its mode of onset and in the general appearance of the patient during a paroxysm, but the state of the patient is much more alarming; there is serous effusion into the bronchi, and there is not necessarily other definite evidence of cardiac incompetence.

Nitrites in any form Flemming found useless. Large hot fomentations gave some relief; they were soothing, but did not cut short the attack. Oxygen given freely gave decided relief, and shortened the attack; but nothing gave so much relief as a hypodermic injection of morphin and atropin.

British Medical Journal, London

July 5, II, No. 2710, pp. 1-56

17 *Fatal Pellagra in Two English Boys. C. R. Box.
18 *Histologic Changes in Nervous System of Dr. Box's Case of Pellagra. F. W. Mott.
19 Natural History of Pellagra. L. W. Sambon.
20 Case of Pellagra in England. J. A. B. Hammond.
21 Psycho-Analysis. D. Forsyth.
22 Toxemias of Pregnancy and Eugenics from Obstetric Standpoint. A. Routh.

17. **Fatal Pellagra in Two English Boys.**—The post-mortem examination made in the cases cited by Box showed: The body was not greatly emaciated. Fat was still present in the subcutaneous tissues and in the omentum. The eruption could be recognized on the hands and wrists, the elbows, the neck and the face as a brownish scaly thickening. The mouth, fauces and tongue showed no macroscopic lesions. The lower third of the interior of the gullet was bile-stained, but the mucous membrane appeared normal. The gastric mucosa was coated with adherent mucus, but not injected, ulcerated or wasted. The only striking point in connection with the small intestine was the quantity of mucus present in it. The edges of the ileocecal valve were purple and superficially ulcerated; the ulceration extended on to the adjacent wall of the cecum. In the colon itself, near the splenic flexure, was a circular cicatrix, about half an inch broad, and slightly ulcerated at its margin. The appendix was normal in its proximal two-thirds. A tight stricture had caused the distal third to become bulbous. It contained inspissated pus. The mesenteric lymph-nodes were enlarged; one or two of them contained caseous material which was calcifying. The largest nodes were not much bigger than peas.

There was no peritonitis, either old or recent. The liver was fatty-nutmeg in appearance and not enlarged. The gall-bladder contained dark bile. The weight of the liver was 24 ounces. The spleen weighed 2½ ounces. It was normal in color, and the cut surface presented nothing remarkable. The adrenals and pancreas appeared quite healthy. The kidneys weighed 6½ ounces. They were a little swollen and on section had a pale edematous appearance. Their capsules could be stripped readily. The bladder, ureters and rectum were healthy. The prepuce had been slit dorsally and was somewhat thickened from recent inflammation. The pleura and pericardium were free from inflammation or adhesions. The right and left lungs weighed 4 and 5 ounces respectively. They were slightly over-inflated and everywhere crepitant. No tubercles were found in lungs or bronchial lymph-nodes. The heart weighed 2¾ ounces. It was free from valve lesions and its muscle dark and firm. The marrow in the femur and ribs was bright red. The dura mater was healthy, as also were the great venous sinuses of the brain. The pia arachnoid was not edematous and showed no opacities. The spinal meninges also were healthy. The ventricles of the brain were not distended, and it was difficult to be sure of any sclerosis of the cord before hardening. A culture made from the blood immediately after death showed the presence of *Streptococcus pyogenes*.

18. **Histologic Changes in Nervous System.**—Recent scattered degenerated fibers were found by Mott in all the longitudinal and transverse sections of the sciatic nerve, not limited to any bundle of fibers, but general, though somewhat unequal in numbers in all. The roots of the cauda equina show similarly scattered degenerate fibers of the spinal cord; more marked in the postero-lateral and posterior median columns than elsewhere. The changes observed in the fiber systems by the Weigert and Weigert-Pal methods were as follows: There is a slight general diffuse sclerosis throughout the white matter of the cord in all regions, but in certain regions there is a perceptible naked-eye combined sclerosis affecting the direct cerebellar and Gowers' tracts, Goll's column, and the crossed pyramidal tracts. The ascending degenerations are very observable. The descending degeneration in the crossed pyramidal tracts is obvious to the naked eye, but, aided by a hand lens, is very evident in the lower lumbar and sacral regions.

Examination microscopically showed an outfall of fibers and replacement by glia tissue of the crossed pyramidal systems in any part of the course. The direct tract is much larger on one side than the other, and in the cervical region a well-marked outfall of fibers with sclerosis is observable with a low magnification. This is more obvious on the side where the direct tract is the larger. Some scattered sclerosis can be observed in the pyramids of the medulla.

In none of the sections of the brain examined was there any evidence of meningeal or perivascular infiltration with lymphocytes or plasma-cells, or with polynuclear leukocytes. Consequently the terminal streptococcal infection had not invaded the cerebrospinal fluid, and could not, therefore, account for the changes in the neurones by a local inflammatory condition. All the posterior spinal ganglion cells show in varying degrees a marked chromatolysis, swelling of the cell, disappearance of the Nissl granules, except at the periphery, and frequently eccentric position of the nucleus. All the anterior horn cells and their homologues in the medulla and pons show varying degrees of perinuclear chromatolysis; in some instances the cells are so markedly swollen, and the nucleus is so eccentric that it appears as if the cell were dead. There was a marked chromatolysis of the cells of Clarke's column. The Betz cells of the cortex showed similar changes but not so marked; likewise the cells of Purkinje; the pyramidal cells of the cerebral cortex did not appear to be markedly affected. The changes observed in the cells by Bielschowsky fibril method were that the anterior horn cells and the cells of Purkinje, also the Betz cells, but to a less degree, showed in varying degrees, in different parts of a section and in various regions examined, fibril changes similar in character. Some cells show hardly any fibrils, others a few, others appear quite normal, as if they had been affected in different degrees of intensity by the poison.

Dublin Journal of Medical Science

July, III, No. 499, pp. 1-79

23 Clinical Report of Rotunda Hospital for One Year, 1911-1912. H. Jellett, D. G. Madill and R. M. Allan.
24 Pole Ligation for Hyperthyroidism. W. Pearson.
25 Foot-and-Mouth Disease in Man: Aphthous Fever. C. M. O'Brien.

Edinburgh Medical Journal

July, XI, No. 1, pp. 1-96

26 *Fibromatosis of Stomach and Its Relationship to Ulcer and Cancer. A. Thomson and J. M. Graham.
27 Myotonia Atrophica. E. Bramwell and W. R. Addis.
28 Surgeons and Barbers of Edinburgh: Their Separation in 1722. C. H. Creswell.
29 Medical History at International Congress. J. D. Comrie.

26. Abstracted in THE JOURNAL, June 21, p. 2022.

Glasgow Medical Journal

July, LXXX, No. 1, pp. 1-79

30 Things Ophthalmic: New and Old. A. F. Fergus.
31 *Congenital Occlusions of Esophagus and Lesser Intestine. G. H. Edington.

31. Congenital Occlusions of Esophagus and Lesser Intestine.—In one case cited by Edington there was complete atresia of the esophagus. The upper segment, continuous with the pharynx, terminated below in a blind pouch, the lower end of which reached to the level of the seventh ring of the trachea. The lower segment of the esophagus on being traced upward from its cardiac end became markedly contracted as it neared the level of the bifurcation of the trachea. Almost immediately above this level (nineteenth ring) it joined the trachea, its posterior wall forming the posterior wall of that tube, and continuing upward as a muscular layer ventral to the ventral wall of the blind upper segment. There was no appearance of any band joining the segments of the esophagus, but some thin fascia stretched continuously over both.

In the second case there was complete atresia of the esophagus. The pharynx terminated in the blind pouched upper segment which extended down to the level of the twelfth ring of the trachea, 1.5 cm. below the cricoid cartilage. The upper segment appeared dilated—measuring 9 mm. across, as compared with the lower segment, which was only 4 mm. across. On tracing it up from the stomach, the lower segment of the esophagus was found to join the trachea at the level of the nineteenth cartilaginous ring. Above this level there was a common tracheo-esophageal tube, the posterior wall of the lower segment of the esophagus. There were no communicating bundles passing up from it to the blind end of the upper segment.

Journal of Laryngology, Rhinology and Otology, London

July, XXVIII, No. 7, pp. 337-392

32 *Surgery of Hypophysis. J. Broeckaert.
33 Value of Pituitrin Preparations in Reducing Operation or Postoperation Hemorrhage. J. Donelan.

32. Surgery of Hypophysis.—Broeckaert summarizes his paper as follows: Before operating on the hypophysis it is important to ascertain on a successful roentgenogram that the anatomic relations between the hypophysis and the sphenoidal sinus do not contra-indicate the route which it is proposed to follow. The transpalatine, being the shortest and most direct route, deserves to take an important place in the surgery of the hypophysis. Operations by the nasal or intranasal route very often only allow an incomplete evacuation or curettage of the hypophyseal cell. The intranasal route is the most conservative, but is only capable of affording good results in the hands of rhinologists. In the methods of West and Vitelli there is a risk of opening the sella turcica, not in the median line but on one side, which might be productive of disasters. The method of Hirsch, which includes submucous resection of the septum, is long and fatiguing, and demands unusual dexterity. Total resection of the nasal septum, with preservation of the dorsal arch, is superior to it from an esthetic point of view, and also in the time taken in performing it. Resection of the septum may be preceded with advantage by a wide opening into the nasal fossa. Vertical paramedian rhinotomy is the operation of choice.

Lancet, London

July 5, II, No. 4688, pp. 1-62

34 *Surgery of Large Intestine. B. Moynihan.
35 Kinetic Theory of Shock and Its Prevention Through Anoci-Association (Shockless Operation.) G. W. Crile.
36 Incarceration of Cecum and Ascending Colon in Lesser Sac of Peritoneum; Operation; Recovery. I. Back.
37 *Possibility of Achieving by Partial Pneumothorax Advantages of Complete Pneumothorax in Treatment of Pulmonary Tuberculosis. W. P. Morgan.
38 Difficulties of Tonsillectomy and How to Deal with Them. J. F. O'Malley.

34. Surgery of Large Intestine.—Moynihan emphasizes that it is important to know the vascular distribution in the colon, for it is alongside the arteries that the lymph currents flow and the lymph-nodes chiefly lie. His view is that, however, vessels are ligatured and whatever sacrifice of mesentery may be thought necessary, it is almost impossible to deprive the cut ends of the colon, when resection is being done, of an adequate blood-supply. Mortification due to anemia is a myth. The marginal artery affords an ample supply of blood to all parts. Moynihan points out further that a knowledge of the number, course and termination of the lymph-vessels and of the distribution of the lymph-nodes is essential to all sound surgery of malignant disease. The surgery of carcinoma may sometimes be the surgical anatomy of the lymphatic system. If a growth affects any organ it is necessary to know the boundaries of the lymph area of that part. The point of greatest importance in the lymphatic arrangement of the cecum and appendix is that vessels may pass from their origin directly to the upper group of the main ileocolic chain. The importance of this observation is, of course, this, that it seems to indicate that in any "radical" operation for the removal of carcinoma of the cecum or appendix the highest glands along the ileocolic artery must be included as well as the lower group, and those subsidiary groups which lie along the branches given off to right and left at the termination of the artery.

37. Partial Pneumothorax in Pulmonary Tuberculosis.—Morgan believes that what we gain by the introduction of a comparatively small volume of gas is a considerable limitation of the movements of the consolidated portions of the lung, and further, the prevention of the pumping action, which before the induction, by driving out tuberculous poison from the diseased foci, produced auto-inoculation. The rational treatment of the disease would be to introduce as much gas into the pleural cavity as would be sufficient to relieve the symptoms.

Archives des Maladies de l'App. Digestif, Paris

May, VII, No. 5, pp. 241-300

39 Generalization of Melanic Tumors throughout Gastro-Intestinal Tract. P. Savy and P. Bonnet.
40 Factors in Cholelithiasis. (Pathogénie de la lithiase biliaire.) C. Flandin.
41 Primary Cancer of Ampulla of Vater. H. Roger and N. Lapeyre.

Bulletin de l'Académie de Médecine, Paris

June 17, LXXVII, No. 23, pp. 581-595

42 Treatment of Hookworm and Distoma Disease. (Traitement de la distomatose hépatique et de l'uncinariose.) E. Perroncito.

Journal de Chirurgie, Paris

June, X, No. 6, pp. 657-815

43 Technic for Removing the Lymph-Nodes in the Neck in Operating for Cancer in Mouth or Throat. (L'évidement des gites ganglionnaires cervicaux dans les cancers de la bouche et du pharynx.) M. H. Morestin.

Presse Médicale, Paris

June 18, XXI, No. 50, pp. 497-504

44 Necessity for National Campaign against Tuberculosis. (Vers une action nationale contre la tuberculose.) E. Fuster.

June 21, No. 51, pp. 505-516

45 *Tuberculosis of Fallopian Tubes. (La tuberculose de la trompe.) F. Jayle.

June 25, No. 52, pp. 517-524

46 Quantitative Determination of Urea in Body Fluids. (Sur le dosage de l'urée dans le sang et les divers liquides de l'organisme par l'emploi du reactif de Fosse—Xanthydrol.) L. Hougounenq and A. Morel.

47 *Roentgen-Ray Exposures of Nerve at Emerging Point in Treatment of Neuralgia. (La radiothérapie radiculaire dans le traitement des névralgies.) A. Zimmern, P. Cottenot and A. Dariaux.

43. **Tuberculosis of Fallopian Tube.**—Jayle's article is profusely illustrated, showing the aspect of tuberculous lesions in the tubes and their mode of development and spread, with the details of several clinical cases all testifying to the advantages of operative-conservative measures. A history of some old tuberculous lesion, possibly years before, may aid in differentiation. In one of the cases described the young woman had been operated on for supposed appendicitis and a dermoid cyst had been removed at that time. Eighteen months later Jayle found and removed a tumor the size of an orange in front of the uterus, containing pus and a gelatinous substance. It was assumed to be some kind of a dermoid cyst until the microscope revealed its tuberculous nature. This patient was a girl of 19, apparently in perfect health except for the cystic tumor. Treatment of tuberculous processes in the tubes can be only surgical, but Jayle makes a point of leaving the uterus and ovary unmolested if possible, even if the lesions are quite extensive. He denounces the routine practice of mutilating operations in young women.

One patient was operated on over fourteen years ago. She was 22 years old at the time and has since married, and menstruation has continued undisturbed. Another girl of 16 was operated on thirteen years ago and has been in good health since. Both ovaries and the uterus were left intact and the menses came on for the first time seven months after the operation and have been normal since; the girl is now married. Jayle does not know of any other series of such operations on record in which the intervals since have been so long. Recent reexamination of a number of his patients has confirmed the superiority of conservative measures for tuberculosis of the fallopian tube after excision of the tuberculous process itself. Menstruation is not interfered with, and the remote results brilliantly justify the principle of conservative measures not only for ordinary inflammatory processes in the tubes, but also for the tuberculous, he reiterates.

47. **Direct Radiotherapy of Nerve Roots in Treatment of Neuralgia.**—Zimmern, Cottenot and Dariaux apply the Roentgen rays to the nerve root at the point where it pierces the bone. This radiotherapy of the root acts not only on lesions of the intraspinal segment or the segment where the two roots are invested with their membrane sheath, but it acts also on neuralgia and neuritis due to trouble in the segment passing through the intervertebral foramen or the extraspinal segment where the roots coalesce. They have found direct exposure of these regions to the Roentgen rays remarkably effectual in curing sciatica, neuralgia and neuritis of the brachial plexus, and trigeminal neuralgia. The invariable benefit derived throws light on the pathogenesis of certain neuralgias. In sciatica in particular the effect of this circumscribed radiotherapy far surpasses that obtained by any measure which acts merely on the pain and does not attack the cause of the pain. They cite Gocht's success in 1897 with roentgenotherapy of trigeminal neuralgia; his patient was cured in two days by this means of rebellious neuralgia. Stembo published in 1900 the histories of twenty-one patients cured by this means of rebellious neuralgia, out of twenty-eight treated. In most of the literature on the subject the region exposed was more toward the periphery, the particularly painful points, etc., and only weak doses were given. The experiences here related confirm the advantages of making the exposures at the root of the nerve involved and applying the rays in three doses of 0.5 or 1 unit each, to a total of 3 or 4 H units. The series may have to be repeated after an interval of a week or ten days. They never witnessed an untoward by-effects with this technic. The exposures are made in such a way that the rays reach the nerve roots obliquely between or through the laminae of the spine. For brachial neuralgia the point exposed is the emerging point of the brachial plexus between the spinous processes of the third cervical and first dorsal vertebrae. For trigeminal neuralgia, the region above the zygomatic process near the process of the malar bone, at the point of surgical access to the gasserian ganglion. For sciatica, the exposures are made over the area comprising the emerging points of the nerves near the fourth and fifth lumbar vertebrae and the first, second and third sacral vertebrae. The sacro-iliac articulation might be included in the exposure, as changes here are sometimes a factor in sciatica. If an actual inflammation of the roots is supposed to be the cause of the sciatica, the region higher up should be exposed to the rays, including an area up to the eleventh dorsal spinous process. They now have a record of thirty patients treated in this way, and they report two cases of severe neuralgia of the brachial plexus rapidly cured; also a case of brachial pruritus which had resisted five sittings of peripheral exposures but which disappeared the day that the roots were exposed to the rays. In another case ulnar neuritis rebellious to all kinds of treatment for three months, vanished entirely after the second exposure of the spinal root region. Also nineteen patients of the twenty-two with sciatica, were cured, most of them so completely that the pain not only vanished but the Achilles reflex reappeared when before it had been weak or absent. The radicular radiotherapy thus not only has a remarkable action in curing the pain but also in inducing repair, as is shown by the return of the tricipital and Achilles reflexes. They ascribe the benefit to relief of pressure at the points where the nerve pierces the bone, the rays acting like an invisible and intelligent bistoury to release the compressed nerve roots from the products of congestion or inflammation. When the neuralgia is due to a cause along its course below, of course exposure of the root will have no effect on the neuralgia.

Revue de Médecine, Paris

June, XXXIII, No. 6, pp. 449-520

48 Diabetes and Acetonemia. (Progrès de nos connaissances sur la pathogénie et le traitement du diabète sucré et de l'acetonémie.) R. Lépine. To be continued.

49 Causes of Delay in Elimination of Water. (Pathogénie de l'opsiurie.) L. A. Amblard.

50 Variations in Proportion of Cholesterin in the Blood in Liver Disease during a Course of Vichy Waters. Biscons and Rouzaud.

51 Whitish Streaks on Skin of the Chest from Stretching: Lineae albicantes; Seven Cases. (Les vergetures du thorax.) A. Cramer.

Revue Médicale de la Suisse Romande, Geneva

June 20, XXXIII, No. 6, pp. 437-512

52 *The Intradermal Tuberculin Reaction in Children. (Etude de la tuberculose infantile. L'intradermoreaction à la tuberculine; ses applications en médecine infantile.) L. Jeanneret. Commenced in No. 5.

53 The Scientific Bases of Radiotherapy in Gynecology. E. Partos.

54 Case of Rheumatic Nephritis in Recurring Acute Articular Rheumatism. (A propos d'un cas de néphrite rheumatismale.) G. Turrettini.

55 Repeated Puncture Plus Injection of a Gas in Treatment of Tuberculous Pneumonia with Recovery; Two Cases. Tecon.

52. **Diagnosis of Tuberculosis in Young Children.**—Jeanneret's long article gives the results of four years of study of the skin and intradermal tuberculin tests as applied to 1,012 children. Each child was treated on one arm with the tuberculin technic according to Pirquet and on the other arm by the intradermal method according to Mantoux' technic. In the first series of 900, in 814 of 840 tests the findings were concordant on both arms. In 735 cases there was no reaction, that is, both tests were negative; in seventy-nine cases both were positive, and in twenty-six cases the intradermal (Mantoux) was alone positive. In thirty-seven of the 735 negative cases the children died, and necropsy revealed no trace of tuberculosis in thirty-five. But in two children giving

a negative reaction advanced tuberculous lesions were found. This contradictory finding is readily explained by the fact that the children were practically moribund when the test was applied; the body was unable to respond with the specific reaction. In a further series bringing the total number of children to 1,012, with over 5,000 intradermal tests, the absolute harmlessness of the intradermal technic was abundantly confirmed. The reaction is absolutely specific, revealing in the body an active, torpid or healed tuberculous focus, without fail unless there is some acute infectious disease at the time or cachexia preventing the formation of antibodies. The younger the child the more significant a positive reaction. The experiences related sustain the assumption that the size of the focus of the reaction is proportional to the intensity of the tuberculosis. He always measures the diameter of the central papule of the Mantoux reaction, recording this and in parentheses the diameter of the halo of redness around it, when there is a halo. By this means it is possible to obtain quite an insight into the extent of the tuberculosis. With merely tuberculous lymph-nodes, the intradermal reaction was a papule not over 1 to 7 mm. in diameter, except very rarely when it ran up to 14 or 15 mm. With a tuberculous focus in a lung, on the other hand, the intradermal reaction formed a papule from 8 to 20 or even from 25 to 30 mm. in diameter. The Mantoux technic is exceptionally simple and easy; pushing up the child's sleeve, the little injection can be made in a fold taken up in the skin, with an exact dose of the tuberculin (0.0001 c.c.), and the child requires no further supervision. With the Pirquet, the child has to be watched afterward to see that the tuberculin is not wiped off, and there is never any knowledge as to the exact proportion absorbed. Jeanneret cites ten clinicians who insist that the intradermal technic has all the advantages of Pirquet's skin test while the response is quicker, more distinct and more reliable, although after the age of 7 only the negative findings with either can be regarded as decisive. Jeanneret applied the test every two weeks in a number of cases to control the effects of treatment. The reaction grows less as the child improves. The Mantoux immunity thus acquired sifts out the children who will respond favorably to tuberculin treatment, and the response also serves as a guide for the dosage.

Semaine Médicale, Paris

June 25, XXXIII, No. 26, pp. 301-312

56 **Abdominal Hysterectomy for Cancer.** (Les moyens d'améliorer les résultats immédiats de l'opération radicale du cancer utérin par voie abdominale.) R. De Rovis.

Archiv für Verdauungs-Krankheiten, Berlin

XIX, No. 3, pp. 263-408

57 **Gastric Secretion during Digestion.** (Untersuchungen über die Magensekretion während des Verlaufes der Verdauung.) J. P. Gregersen.

58 **Mechanism of Purgative Action of Mineral Waters.** (Zur Theorie der Bitterwasserwirkung.) H. Ury.

59 **Perforation of Gastric Ulcer.** (Ein höchst seltener Fall von perigastrischem Hämatom nach Perforation von Magengeschwüren.) F. Meinert.

60 *Gastric Achylia as Sign of Cancer. R. Schorlemmer.

61 *Referred Pain over Stomach or Heart on Steady Pressure of McBurney's Point as Sign of Chronic Appendicitis. (Ein neues Anzeichen chronischer Appendicitis.) C. D. Aaron.

62 **Quantitative Estimation of Intestinal Putrefaction.** (Bericht über klinische und experimentelle Ergebnisse über Darmfäulnis im Jahre 1912.) A. Rodella.

63 *Vegetarian Diet of Japanese Monks. (III. and IV. Bericht über die absolut vegetarische Ernährung japanischer Bonzen.) G. Yukawa.

60. **Gastric Achylia in Relation to Cancer.**—Schorlemmer relates a case in which a life insurance policy was taken out by a supposedly healthy woman of 42 and nine months later she died of gastric cancer. The company protested against paying the insurance as it proved later that the woman at the time of her application had been under treatment by a stomach specialist, which fact she forgot to mention, as also her knowledge that there was no hydrochloric acid in her stomach content. Schorlemmer as expert testified that gastric achylia cannot be regarded as a certain sign of gastric cancer, and that achylia can have no influence in causing death. Also that there is nothing to prove that the lack of hydrochloric acid alone is a factor which renders the acceptance of a candidate extra hazardous. Gastric achylia may be congenital, or it may occur transiently in certain conditions from various causes, and it cannot be regarded in the least as an absolutely certain premonitory sign of a beginning cancer. It can only be regarded as such when there are other suspicious findings on examination, which was not the case in this instance. In fact, the gastric achylia had been known to exist in this case for so many years that its long duration seemed to exclude a causal connection with gastric cancer. In conclusion Schorlemmer warns in regard to the sentence with which the application for insurance generally commences, namely, that the applicant releases from the ban of secrecy any and all physicians who may have examined or had the applicant in their charge. Schorlemmer warns that this release from secrecy applies only to the application for a policy. After the applicant has been accepted as a policy holder, then the medical men with whom the applicant has had dealings previously or later, are once more bound by the obligation of professional secrecy. Any inadvertence on the part of the medical men which might allow matters to become known that might have an influence on the payment of the insurance money—any such inadvertent statement might result in the medical man's being sued by the heirs for the amount of the policy in case the insurance money was lost to them by such statement of his, thus disclosing matters which he should have been bound by professional secrecy not to reveal.

61. **A Sign Indicative of Chronic Appendicitis.**—This seems to be a translation of the article published in THE JOURNAL, Feb. 1, 1913, p. 350.

63. **Metabolic Findings on Vegetarian Diet.**—The first report in this series was summarized in THE JOURNAL, 1909, liii, 1949. The later research sustains the conclusions of the first, namely, that the absolutely strictly vegetable diet of Japanese monks with its minimal proportion of calories suffices for the maintenance of health in those accustomed to it.

Beiträge zur Klinik der Tuberkulose, Würzburg

XXVII, No. 1, pp. 1-102. Last indexed July 12, p. 154

64 **Tuberculin Has no Essential Action on the Blood Pressure of the Tuberculous.** (Einwirkung des Tuberkulins auf den Blutdruck Tuberkulöser.) K. Weihrauch.

65 **Tenderness of Muscles over Tuberculous Pleuritis.** (Zur Entstehung des Muskelschmerzsymptoms bei tuberkulöser Lungenfellentzündung.) E. Isserson.

66 **No Effect from Tuberculin Treatment in Experimental Tuberculosis.** (Untersuchungen über den Einfluss von Alttuberkulin Koch und Tuberkulin Rosenbach auf die Impftuberkulose des Meerschweinchens.) W. Neumann.

67 **The Tuberculous at Health Resorts.** (Zur Frage der Behandlung der Tuberkulose im Süden und speziell an der Riviera.) P. Schrumpf.

68 *Treatment and Prognosis of Tuberculosis in Infants and Young Children. (Tuberkulose im Säuglingsalter und frühen Kindesalter.) M. Hollensen.

69 **Phagocytosis of Tubercle Bacilli in the Sputum.** (Zum Studium der Immunität bei Tuberkulose.) J. D. Rodes.

68. **Tuberculosis in Young Children.**—Hollensen states that until recently the prognosis of tuberculosis in children less than 2 years old has been almost invariably grave, but in her experience a course of tuberculin treatment whenever the skin test (Pirquet) has given a positive reaction in an infant, seems to have brought about a turn for the better. She relates the particulars in a number of cases, the results being that of twelve infants less than a year old given tuberculin treatment, over 16 per cent. seemed to be entirely cured; over 16 per cent. were materially improved but died of an intercurrent disease; 16 per cent. are still under treatment, thriving well to date, and only 16 per cent. died of the tuberculosis and these had not been given the tuberculin treatment as the general condition was too bad with high fever when first seen. Of thirty-four infants 12 to 24 months old tuberculin treatment was given to twenty-four, that is, over 70 per cent., and 26.5 per cent. are now clinically cured and

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only 17.6 per cent. have died of tuberculosis. Of the nine children from 2 to 4 years old, seven were given tuberculin treatment and 33 per cent. of the nine children are cured, and only one has succumbed to the tuberculosis. The tuberculin treatment is thus without effect in over 16 per cent. of the infants less than a year old; in 23.5 per cent. of the children between 1 and 2 years old, and in 22.2 per cent. of the children between 2 and 4. The number of cured cases will be much larger when the course is concluded for those still under treatment who are now thriving well. Hollensen calls attention to the fact that when the Pirquet became negative under the tuberculin treatment, it was still negative on repetition of the test later; some of the children have been thus repeatedly tested for two or three years since completion of the course. Certain others who were only much improved at the completion of the course reacted positively later and some have signs of tuberculosis at present. All this material is summarized and tabulated for comparison.

Berliner klinische Wochenschrift

June 23, I., No. 25, pp. 1145-1192

70 Balneotherapy of Cardiovascular Disturbances. (Kreislaufstörungen.) O. Müller.
71 Serodiagnosis of Pregnancy. (Weitere Erfahrungen mit der serologischen Schwangerschaftsdiagnostik.) E. Rosenthal. (Zur Abderhalden'schen Schwangerschaftsreaktion.) S. Gottschalk.
72 Histology of Hen-Pox. (Geflügelpocken.) A. Schuberg.
73 Hypophysis Extracts. (Hypophysis und ihre Präparate in Verbindung mit ihren wirksamen Substanzen.) L. Popielski.
74 The Tonsillectomy Question. M. Goerke.
75 *Differential Diagnosis of Contracture of the Fingers. P. Schuster.
76 *Plexus Grafting. (Plexuspfropfung.) M. Katzenstein.
77 The Air in the Berlin Subway. (Ueber den CO_2-Gehalt der Luft in der Berliner Untergrundbahn.) W. Arnoldi.

75. Contracture of the Fingers.—Schuster gives illustrations of the various types of contracture of the fingers, discussing the differentiating points and emphasizing the necessity for exact diagnosis of the cause for an estimate of the ultimate outcome. The hand can be used fairly well in time with a familial contracture of the fingers or Dupuytren contracture and often even with claw-hand. But with neuritic or hysteric contracture there may be severe impairment of the earning capacity. He describes three cases in particular in which hysteric contracture was declared by experts to be mere simulation. Physicians doing much surgical work seem to be the readiest to suspect simulation, Schuster has noticed. The patients in the cases described were all men but one.

76. Grafting a Nerve in a Plexus.—Katzenstein has applied in two cases a method of nerve grafting which differs from the technic commonly in vogue in that an entire nerve is implanted—one that can easily be spared—instead of grafting merely part of the nerve, and it is implanted in the plexus where conditions favor restoration of function much better than in the lower, more differentiated segments of the nerve. In one case he implanted the suprascapular nerve of the sound side in the brachial plexus, drawing it across by the shortest route, and in the other the sound obturator nerve in the lumbosacral plexus. The nerve fitted readily into the plexus, and although the operations are quite recent yet the effects are very encouraging. The graft in the brachial plexus was done three months ago in a 9-year old child whose right hand and arm had been paralyzed for eight years.

Correspondenz-Blatt für Schweizer Aerzte, Basel

June 7, XLIII, No. 23, pp. 705-736

78 *Conservative Surgery of the Heart. M. v. Arx.

June 21, No. 25, pp. 769-800

79 No Benefit from Serotherapy of Gonorrhea in Six Women. P. Waeber.
80 Study of Effects of the Swiss 1889 Model Bullet. (Geschosswirkung des schweizerischen Ordonnanzgewehrs Modell 1889.) C. Brunner. Commenced in No. 23.

78. Conservative Surgery of the Heart.—Arx opened up the heart after a stab wound of the right ventricle, but did not attempt to suture the wound in the heart and the patient, a man of 30, recovered in a month. There had been considerable hemorrhage and the man had run about a quarter of a mile after the injury before he lost consciousness. When the physician reached him an hour later the pulse was only occasionally perceptible and the apex beat scarcely to be felt at all. The stomach region was painful on contact and there was dulness toward the left. This suggested injury of the diaphragm and liver, but a minute exploratory laparotomy showed that the abdomen was apparently intact. The pleura had not been injured and Arx exposed the pericardium by resecting the fifth and sixth costal cartilages for 2½ and 3 cm. from the sternum, thus following the path of the knife. The stab wound in the pericardium thus exposed did not bleed much, but the moment it was enlarged a large amount of thick black blood poured out. The pulse at once grew stronger. The hole in the right ventricle proved to be far to the right and under the sternum. The respiration was not good, and so after rinsing out the pericardium with saline a strip of gauze was laid directly on the heart wound and the wounds in the pericardium and thorax were loosely tamponed and the skin sutured, all except one small spot. Stimulants were given and the dressings were changed after about thirty-six hours. During this there was slight bleeding but it stopped when the sterile gauze was replaced with iodoform gauze, after which there was a smooth recovery; the pulse kept between 80 and 88 and the temperature never went above normal range. Reexamination of the patient a year later shows that the heart functioning suffers a little from the weakening of the bony wall of the chest. The heart beat lacks the usual resistance of the chest wall and this has led to dilatation and slight displacement of the apex beat. This could have been prevented by an osteoplastic operation or temporary resection, but this makes greater demands on the vitality while following in the track of the knife is comparatively simple. The case teaches that the anemia from the hemorrhage is not the chief danger in case of injury to the heart, but that the hemorrhage into the pericardium presses on the heart to such an extent that it mechanically impedes its functioning. As soon as the blood was let out of the pericardium, the heart started at once to work properly again and the direct danger to life was past. The case further emphasizes the advantages of proper drainage in case of injury of any endothelial cavity; the pericardium is no exception to this rule.

Deutsche medizinische Wochenschrift, Berlin

June 19, XXXIX, No. 25, pp. 1185-1232

81 *Heat Stroke. (Wesen und Behandlung des Hitzschlags.) A. Hiller.
82 The Skin in Diabetes. (Die Hautkrankheiten der Diabetiker.) Bettmann.
83 Tuberculin Plus Iodoform in Treatment of Tuberculosis. (Chemotherapeutische Erfahrungen bei Behandlung Tuberkulöser.) D. Rothschild.
84 Experiences with Rosenbach's Tuberculin. F. A. Elsässer.
85 *Technic for Feeding Patients with Cancer of the Esophagus. (Zur Erleichterung der Ernährung bei Oesophaguskarzinom.) W. Krienitz.
86 *Syphilis of the Kidney; Two Cases. (Nierensyphilis.) A. Welz.
87 Animal Bladders for Metreurynters. (Ballonbehandlung mit tierischen Blasen.) Baumm.
88 Nail Extension. (Schädigung des Knochens durch Nagelextension.) A. Wagner. (Unverschiebbarer Nagelextensionsapparat.) N. Spiegel.
89 *Direct Dilatation of the Eustachian Tube. (Neues Verfahren zur direkten Erweiterung der Ohrtrompete.) A. v. Gyergyai.
90 Enormous Scrotal Hernia; Two Cases. Glerszewski.
91 Sources of Error in Wassermann Reaction. (Ueber eigenlösende Eigenschaften des Meerschweinchenserums und dadurch bedingte Fehlerquellen der Wa.R.) M. Rabinowitsch and H. Neue.

81. Heat Stroke.—Hiller lays stress on the importance of artificial respiration in the form of heat stroke with asphyxia; this is the most frequent form, he says, and is the most amenable to the proper medical measures. When the heat of the body cannot escape, there is stagnation of the heat and the body temperature rises. He has known soldiers on the march to have a constant abnormally high rectal tem-

perature, like a febris continua. This high temperature predisposes to heat stroke, as also debility of any kind, lack of sleep and proper food, and obesity. The respiration becomes shallow, the pulse small and fast, the blood stagnates in the venous system and in the lungs, and there is a syncopal weakness in all the limbs and oppression in the chest. Lying down or resting enables the man to recuperate, but if he does not give up, the lips and ears grow cyanotic and there is more or less tendency to stupor, and finally he drops unconscious. Respiration nearly stops except for occasional gasping breaths. The pulse is imperceptible and auscultation shows rapid heart action with dropped beats, and muscle twitching. Artificial respiration should be kept up from one-half to two hours, or as long as there is the slightest trace of respiration or movement of the heart. By the Howard method this can be kept up without too much fatigue, by resting occasionally. The artificial respiration should be supplemented by stimuli to the skin, sprinkling the naked trunk, and fanning hard. As soon as the patient can breathe spontaneously, the attempt can be made to give him water or, better yet, fresh strong coffee. Unless the heart is functioning it is no use to give drug stimulants. As Thiersch says of transfusion, the heart stimulants fail just when they are most needed, and they begin to act when they are no longer needed. At the critical moment massage of the heart might be tried, done during expiration, with the second and third fingers manipulating the apex through the fourth and fifth intercostal spaces. In 470 cases of heat stroke in the Prussian army there were 329 of this type, with 7 per cent. mortality. The mortality was over 60 per cent. in what he calls the dyscrasia-paralysis form of heat stroke, of which there were 119 cases. The composition of the blood is so altered that all the vital functions are paralyzed. This form is encountered in persons who keep on in spite of the exhaustion of the muscles of respiration and of the heart and in spite of the lack of oxygen. The excessive perspiration from the extreme heat, the abnormal products of muscle metabolism under the inadequate intake of oxygen, the anuria and retention of waste products in the blood, amply explain the changes in the blood. The profuse sweating entails a loss of large amounts of alkaline blood-salts, which is debilitating. After the sweating comes a period in which there is no further perspiration; this occurs from lack of fluids in the body or from paralysis of the movement of the blood or from toxic paralysis of the nerves governing the secretions. When the man ceases perspiring, his last means of regulating heat production is taken from him and the temperature runs up rapidly to the highest figures known in man. The blood is dark red, transparent in a thin layer, and it does not turn red when shaken up with air, and does not coagulate. The reaction is acid. Hiller discusses the mechanism of each of the chief symptoms, the profound coma, periodic tonic spasms, vomiting and diarrhea and the high temperature, and reiterates the importance of stimulating the emunctories. The defective absorption and circulation prevent any action from drugs on the urine and perspiration, but the intestines will generally respond to slow injection of a pint or quart of tepid saline or of a solution of 6 gm. sodium chlorid; 3 gm. sodium carbonate; 1.5 gm. sodium phosphate, and 1 gm. potassium phosphate in a liter of warm water. This alkaline enema serves to neutralize the sarcolactic acid in the blood; the best results are obtained only when the heart is still beating. In one such case 10 drops of tincture of strophanthus were given in an enema and after two hours the man passed a liter of reddish urine and recovered.

The best means to ward off edema of the brain or lung is by venesection; the benefit is often striking after removal of 200 or 300 c.c. Venesection is indicated in the asphyxia form of heat stroke if the stagnation in the venous system and lungs persists longer than one or two hours. The heat stroke may be complicated by a predisposition to a psychopathy magnified by the exhaustion and the defective nourishment of the brain and nerves from insufficiently oxidized blood. Such patients should be kept under constant supervision and the windows closed to prevent their throwing themselves out of the window or otherwise committing suicide. If they can be made to sleep and are given nourishing food, with wine, a few hours generally restores normal conditions. Sometimes there may be loss of memory afterward, depression, weakness, pains in the limbs and slow pulse for a few days. Hiller adds that the astonishing prevalence of a psychoneurotic predisposition among the lower classes frequently adds symptoms of neurasthenia and hysteria to those of ordinary heat exhaustion. Mere heat collapse on the street, with transient unconsciousness, shallow and rapid respiration, but the temperature not above normal, requires merely to loosen the clothes and apply mild stimuli to the skin, sprinkling the face and bare chest with water. As the man recovers consciousness, he can be given cool water to drink or, better yet, a cup of strong fresh coffee.

85. **Feeding with Cancer of the Esophagus.**—The advantages are obvious of the method which Krienitz has been using with great success for some time. The aim is to do away with swallowing and with irritation of the tissues from a large sound. He uses a very narrow stomach tube, closed at the bottom, but 5 cm. from the bottom it is studded with twenty small holes over a stretch of about 7 cm. The patient swallows this tube until it reaches the obstruction. Then he introduces a stiff guide and works the tube down through the narrow part of the esophagus. The guide is then removed and liquid food is poured through a funnel into the stomach tube. He follows this by rinsing out the esophagus above the stricture with a disinfecting fluid; this obviates irritation from stagnating particles of food. The esophagus tissues are thus spared all irritation and all muscular work, and he thinks that this principle of systematic feeding through an extremely narrow tube, with no demands on the swallowing mechanism, realizes a great advance in cancer of the esophagus. He has applied the same principle in cancerous stenosis of the rectum, evacuating the space above through a fenestrated tube passed through the stricture by the aid of the stiff guide.

86. **Syphilis of the Kidney.**—Welz recently encountered two cases of kidney trouble, one suggesting a paranephritic process, the other obstinate pyelitis. The patients were young women apparently very sick and with nothing to suggest syphilis except a positive Wassermann. The sediment of the fresh urine contained clumps of leukocytes but it was constantly sterile and in spite of the high temperature, the leukocyte count was normal. The general health showed periodical ups and downs with gradual aggravation. Treatment as for nephritis led to no improvement in the course of three months, but then measures as for syphilis were followed by prompt and complete recovery.

89. **Dilatation of the Eustachian Tube.**—Gyergyai reports six cases in which he dilated the tube by means of a metal dilator made the exact size and shape of the normal tube. The article is illustrated.

Medizinische Klinik. Berlin

June 22, IX, No. 25, pp. 979-1022

92 Minor Cosmetic Operations and Treatment. (Die Kosmetik in der ärztlichen Sprechstunde.) S. Grosz.

93 Roentgenoscopy of Obstruction in the Small Intestine. (Zur Röntgendiagnostik der Dünndarmstenose und des Dünndarmileus.) E. Stierlin.

94 Case of Congenital Myotony. (Zur Klinik der sogenannten Thomsenschen Krankheit.) A. Skutetzky. (Ergographische Versuche an einem Falle von Myotonia congenita—Thomsen.) F. B. Hofmann.

95 Dislocation of both Clavicles. v. Kamptz.

96 Hypophysis Extract in Treatment of Acute Drop in Blood-Pressure. Klotz.

97 Breathing under Negative Atmospheric Pressure in Treatment of Cardiovascular Disturbances. (Zur Behandlung von Herzschwäche und Kreislaufstörungen mit der Bruns'schen Unterdruckatmung.) E. Hirsch.

98 Atropin in Treatment of Obesity. (Die Belladonna in der Behandlung der Fettleibigkeit.) F. Franke.

99 Carbonated Baths. (Zur Methodik des Kohlensäurebads.) L. Nenadovics.

100 Treatment with Radioactive Emanations. (Ueber die Verteilung von Radiumlösungen und Radiumemanationslösungen im Körper nach Einführung in die Blutbahn.) W. Engelmann.

101 Technic for Facilitating Staining of Tissues. (Eine Methode zur Verstärkung der Färbung schwer färbbarer Gewebe bei Anwendung der Methoden: polychrome Methylenblaulösung —Glycerinäther und Carbol + Methylgrün + Pyronin.) T. Reimann.

Monatsschrift für Geburtshilfe und Gynäkologie, Berlin

June, XXXVII, No. 6, pp. 723-896

102 Embedding of Human Ovum. (Zur Kenntnis des Einbettung des menschlichen Eies.) N. J. A. F. Boerma.
103 Anatomic Diagnosis of Advanced Cases of Ovarian Pregnancy. (Intraligamentär entwickelte Eierstocksschwangerschaft.) E. Engelking.
104 Attempts at Criminal Abortion in Absence of Pregnancy, and Their Medicolegal Bearing. A. Liebeck.
105 Duodenal-Jejunal Hernia in Infants. E. Vogt.

Münchener medizinische Wochenschrift

June 17, LX, No. 24, pp. 1305-1360

106 Pressure on the Brain with Certain Eye Diseases. (Ueber die Höhe des Hirndruckes bei einigen Augenkrankheiten.) L. Heine.
107 *Intravenous Injections of Small Amount of Blood in Treatment of Severe Anemia. A. Weber.
108 A Thousand Subcutaneous Injections of Neosalvarsan. W. Wechselmann.
109 Treatment of Lateral Curvature of the Spine. (Zur Behandlung von Skoliosen durch Gipsverbände nach Abbott.) P. Erlacher.
110 Operative Treatment of Cancer of the Esophagus. W. Meyer (New York).
111 Serodiagnosis of Cancer. (Serodiagnostik der Geschwülste nach v. Dungern.) P. A. Petridis.
112 *Utilization of Secondary Rays to Enhance Action of Roentgen Rays. A. Pagenstecher.
113 *Implants of Skin Instead of Fascia in Plastic Operations. (Ueber Hautimplantation an Stelle der freien Faszienplastik.) O. Loewe.
114 *Clinically Unexplained Sudden Death of Parturients. (Ueber plötzliche, klinisch rätselhafte Todesursachen während oder kurz nach der Geburt.) H. Saenger.
115 Typhoid in a Regiment Traced to Old Bacillus-Carrier. Schmiz.
116 Recovery after Operative Treatment of Puerperal Sepsis. Brix.
117 *How to Recognize Minute Defects in the Placenta. (Leichtes Erkennen kleinster Plazentardefekte.) A. L. Scherbak.
118 Lumbar Intraspinal Injection of an Anesthetic in Treatment of Gastric Crises. M. Fuchs.

June 24, No. 25, pp. 1361-1416

119 Differential Diagnosis of Small-Pox. (Pocken.) C. Bäumler.
120 Bacteriologic Findings in Typhus. (Vorläufige Mitteilung über bakteriologische Befunde bei Flecktyphus.) P. T. Müller.
121 Sciatica and Its Operative Treatment. (Neues über das Wesen der Ischias und neue Wege für die operative Behandlung des Leidens.) A. Stoffel.
122 Experiences with Stoffel's Operation for Spastic Paralysis. G. Hohmann.
123 Fascia Plastic Operation for Facialis Paralysis. (Die kosmetische Korrektur der Fazialislähmung durch freie Faszienplastik.) A. E. Stein.
124 The Energometer. (Eine Vereinfachung der dynamischen Pulsdiagnostik.) T. Christen.
125 Prognosis and Treatment of Meningitis. V. Reichmann.
126 Treatment of Granulating Wounds with Jet of Dry Air, not Necessarily Hot Air. (Zur Behandlung granulierender Wunden.) H. Bergeat.
127 Infant-Welfare Stations. (Die Errichtung von Säuglingspflegematerial- und Wäschedepots im Anschluss an die bestehenden Säuglingsfürsorgeeinrichtungen oder als eigene Institutionen.) O. Reinach.
128 Diagnostic Importance of Ferments Found on Substances Free of Blood. (Diagnostische Bedeutung des Nachweises von auf blutfremde Stoffe eingestellten Fermenten.) E. Abderhalden.

107. Intravenous Injection of Small Amounts of Human Blood in Anemia.—Weber called attention four years ago to the excellent results he had obtained in seven cases of severe anemia by repeated intravenous transfusion of small amounts —5 c.c.— of defibrinated human blood. In one instance there was high fever for four days after the transfusion, explained by findings in the right lower lobe, but whether of inflammatory or thrombotic nature was not determined, and the disturbances proved briefly transient. Experiments and clinical experience since then in eighteen cases, transfusion being applied forty-six times, have confirmed the advantages of keeping the blood on ice for from six to twenty-four hours after it is drawn and defibrinated. This seems to do away generally with all tendency to a reaction, either subjective or objective. Only six times was there any evidence of a reaction and it was never of a threatening character. He does not attempt to explain why the setting aside for twenty-four hours annuls any toxic action of the blood; possibly some fibrin-ferment liberated by the defibrination is destroyed on standing a few hours. Weber warns explicitly, however, that his remarks apply only to the small doses advocated—never over 5 c.c. Larger doses are liable to be followed by a severe reaction, chills, fever, etc., as he illustrates by a case reported in which he injected 40 c.c. by the above technic in a man of 39 with severe anemia.

Three of the patients in his latest series were treated with the small transfusions alone—5 c.c. without arsenic; these case histories are reported in detail to show the advantages of the method. The patients were men between 23 and 49, and the youngest patient had complicating apical catarrh and mitral stenosis but marked improvement followed five transfusions by this technic. Weber insists that these small amounts are fully as effectual as large injections, and that the benefit derived is equal to that from arsenic or even surpasses it. The conflicting experiences reported by others are due to the fact that the transfusion was done only as a last resort, when the anemia had reached the actual terminal stage.

112. Utilization of Secondary Rays in Radiotherapy of Cancer.—Pagenstecher is now engaged in clinical research to see if his theoretic premises are tenable in regard to the reenforcing of the effect of the Roentgen rays by injecting a colloidal metal into the depths of the tumor to catch the Roentgen rays and send them forth as secondary rays; each particle of the metal acting like a little Crookes tube. The metal must naturally be in the finest possible particles, and the metal must be one that sends out soft rays under the action of the primary Roentgen rays. He thinks that a suspension of magnetic oxid of iron answers the above conditions. Spude has recently called attention to the fine results he obtained with this metal injected into the depths of superficial cancer. It may prove possible to send the colloidal metal particles directly to the tumor by way of the blood, using some metal which displays an elective affinity for cancerous tissue.

113. Skin Implants in Plastic Operations.—Loewe has applied the technic he describes in seven cases. The flap of skin is taken from the region near the wound, and the epithelium is shaved off down to the corium, and the adipose tissue is cut away from the rear. Then the flap is painted with iodin and implanted in the subcutaneous or subfascial tissue, and held in place with a few catgut sutures. The skin flap was used to reenforce the abdominal wall after a median laparotomy for disease of the adnexa and umbilical hernia in one case; the buried skin flap was 4 x 10 cm. in size. In another case a skin flap 3 x 6 cm. was used to close a slit in the transverse fascia the seat of hernia of the bladder. This flap was implanted below the muscle. In one case a second operation became necessary and the implant was found transformed into a solid sheet of connective tissue. The tendency to heal of these buried pieces of skin is very great, and he does not think there need be any fear of infection as each side of the implant is freshened.

114. Sudden Death after Childbirth.—Saenger reports what he thinks is the first case on record of acute hemorrhagic pancreatitis following close on normal delivery. He is inclined to believe that this cause may have been responsible for the unexplained sudden fatalities after childbirth in many other cases. The birth trauma, the preceding compression of the pancreas from the pregnant uterus at term, the corpulence, and the fact that the patient had eaten very heartily and drunk beer just before the first symptoms of labor, all had contributed to injure the pancreas by the high pressure in the abdomen. Delivery followed two and a half hours after the first labor pains, and the great fluctuations in the intra-abdominal pressure evidently led to the bursting of a vessel in the pancreas. Death occurred in sudden collapse soon after delivery. There had been no manipulations and no drug had been taken and the collapse came like a bolt from a clear sky. The patient was a woman of 26, a iii-para, robust and apparently perfectly healthy. Five minutes after the delivery

the placenta was spontaneously expelled and ten minutes later the woman commented on the way in which everything had gone so well. A few minutes later she vomited, fainted, the extremities became slightly cyanotic and she died. Massage of the heart and artificial respiration proved of no avail. Saenger reviews a number of cases of similar sudden death at childbirth from air embolism, perforation of gastric or duodenal ulcers or of tuberculous, typhoid or gangrenous intestinal ulcers, previously clinically latent but aggravated by the birth, the symptoms masked by the labor pains.

117. **Easy Means to Detect Defects in the Placenta.**—Scherbak accidentally discovered that the different tissues of the placenta are discolored differently when boiling water is poured over the placenta. All the blood clinging to it turns dark brown, the placental tissue gray or pink, the decidua yellowish, bluish or greenish. By the difference in tint it is thus easy to recognize any gap or defect in the surface. The heat of the water also causes the placenta to arch, much as in the uterus, which helps in the detection of even minute defects.

Petersburger medizinische Zeitschrift, St. Petersburg

June 14, XXXVIII, No. 11, pp. 129-139

129 *Diagnosis and Treatment of Acute Pancreatitis. W. v. Reyher.
130 Prophylaxis of Ophthalmia Neonatorum. (Zur Blennorrhoeprophylaxe am Neugeborenen.) G. Weidenbaum.

129. **Acute Pancreatitis.**—Reyher comments on the fact that the literature on this subject, which has advanced so much in the last two decades, is still made up of nearly single case-histories, with reports of delicate functional tests and animal experimentation. There have been very few comprehensive large works on the subject. Truhart compiled 278 cases of acute pancreatitis and is now at work on another compilation in which the figures have nearly doubled. It often happens that the patients come to the table with an erroneous diagnosis, and it is becoming more and more evident that the pancreas displays a tendency to acute disturbance with serious consequences. If the physician can only bear in mind the possibility of acute pancreatitis, differentiation will be comparatively easy. It seems beyond question that differentiation by means of the diastase in the blood and urine as Noguchi has suggested is destined to prove an invaluable aid in diagnosis. (This method was described in THE JOURNAL, July 13 and 20, 1912, pages 122 and 231.) Once diagnosed, acute disease of the pancreas requires immediate operation. Reyher reports two cases in which he made the correct diagnosis and saved the patients by a prompt operation. In a third case the diagnosis was obscured by coincident gall-stone and kidney trouble and the patient died. Persons liable to acute pancreatitis seem to be those inclined to be heavy eaters and drinkers, arterioscierotic, and corpulent. If the disturbance seems to be located in the epigastrium and if there is paresis of the intestines or a gradual oncoming of intestinal paralysis, and if the pains radiate to the back or sacrum, the assumption of congestion or hemorrhage in the pancreas is reasonable, especially if we can palpate in the epigastrium a transverse resistance, sensitive to pressure. Examination of the stools is generally futile on account of the intestinal paralysis. The Noguchi diastase test is simple and gives instructive findings in half an hour. In Reyher's two correctly diagnosed cases there was a history of abuse of alcohol, and of oppression and slight pain at times in the stomach region especially after meals. Both patients had passed stool and flatus after the acute onset of trouble; one had stools and flatus for several days. In one case the acute disturbance began with vomiting; in the other with eructations. Both located the pain at the beginning in the sacrum, later in the back and one still later in the shoulder. There had been nothing to suggest gall-stone trouble. The patients were men of 27 and 29; the abdomen was distended but there was no specially inflated loop or much peristalsis. Deep palpation in the epigastrium elicited pain in the back and sacrum. The urine was free from sugar and albumin. In one the pancreas was found merely extremely congested, red, large and hard; in the other the process had progressed to necrosis. Cases are known of fulminating hemorrhage even during this first stage of primary hyperemia, but otherwise the progression is hyperemia, hemorrhage in the gland, necrosis, and finally suppuration and segmentation. The aim should be to detect the trouble during the first stage.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXXIII, No. 1, pp. 1-334. Last indexed March 15, p. 872

131 Sources and Routes of Puerperal Auto-Infection. F. Ahlfeld.
132 Nodose Isthmic Salpingitis. J. Wallart.
133 The Diagnostic Importance of the Roentgen Rays in Gynecology. T. Heynemann.
134 *Clinical and Operative Bases for Trendelenburg's Operation for Puerperal Pulmonary Embolism. E. Vogt.
135 The Alleged Physiologic Pregnancy Thrombosis of the Vessels at the Site of the Placenta in the Uterus. H. Hinselmann.
136 Melanosarcoma of the Ovary. E. Vogt.
137 Importance for Pregnancy Disturbances of the Liver Functioning and Amount of Fibrinogen Present. (Untersuchungen von Harn und Blut bei Eklamptischen bezüglich der Verteilung der Stickstoffsubstanzen und des Gehaltes an Fibrinogen und Reststickstoff.) E. Landsberg.
138 *Physical and Social Condition of the Mother as Affecting the Size of the New-Born Child. F. v. Gutfeld.

134. **Operative Treatment of Pulmonary Embolism.**—Vogt has compiled fourteen cases of puerperal embolism of the lungs, and analyzes the conditions in which embolism is liable to develop. In 50 per cent. of the cases on record the women were under 30; postoperative embolism generally occurs in patients more advanced in years. Embolism of a large vessel is generally readily diagnosed even when it is impossible to discover the primary thrombus. In 65 per cent. of the cases death occurred without the slightest clinical warning. In 66 per cent. of all the known cases of fatal embolism of the lungs the main trunk or one or both of the main branches was plugged by the embolus, so that the anatomic conditions would have favored its removal. In 64 per cent. of the cases fifteen minutes or more elapsed between the first symptoms of pulmonary embolism and the patient's death, so that there might have been time to do the Trendelenburg operation. On the whole, the conditions are more favorable in the puerperium for the operation for pulmonary embolism than when the embolism follows an operation.

138. **Influence on Size of New-Born Child of External Conditions Affecting the Mother.**—Gutfeld's article was summarized in the Berlin Letter in THE JOURNAL, July 12, 1913, p. 135.

Zeitschrift für Kinderheilkunde, Berlin

VIII, No. 2, pp. 111-186. Last indexed July 26, p. 317

139 *Behavior of Hexamethylenamin and Its Elimination in Differential Diagnosis of Hydrocephalus. (Verteilungs- und Ausscheidungsverhältnisse des Urotropin im menschlichen Körper.) W. Usener.
140 *Serodiagnosis of Inherited Syphilis. (Die Dungernsche Syphilisreaktion bei Lues congenita.) S. Samelson.
141 Rumination and Pylorospasm. E. Aschenheim.
142 Convulsions Preceding all Other Signs of Spasmophilia; Two Cases. (Ueber bemerkenswerte Abweichungen in der zeitlichen Folge der spasmophilen Erscheinungen.) I. Rosenstern.
143 Congenital Debility and Spasmophilic Diathesis. I. Rosenstern.
144 Whey and the Digestive Ferments. (Molke und Magendarmfermente.) H. Davidsohn.

139. **The Elimination of Hexamethylenamin and its Use in the Differential Diagnosis of Hydrocephalus.**—Ibrahim assumes that hydrocephalus is caused by a disturbance in the balance of production and absorption of cerebrospinal fluid, chiefly by a deficiency in absorption. The measure of the hexamethylenamin found in the cerebrospinal fluid, as compared with the normal, is the measure of this defect, and a quantitative estimation of the drug in the fluid thus aids in the diagnosis of hydrocephalus. Usener carried out a large number of experiments to determine the amount excreted normally in the various body fluids after administration of hexamethylenamin. Urine, cerebrospinal fluid, hydrocele fluid, mother's milk and blood serum were tested. The chief elimination is of course through the urine, the amount found in the urine being about ten times that in the cerebrospinal fluid. He then gives case histories of seven cases of meningitis with hydrocephalus and

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reports the hexamethylenamin findings in the cerebrospinal fluid. Numerous tables are given showing his findings in detail. His conclusions confirm those of Ibrahim, namely, that there is a defective absorption of fluid.

140. **Serodiagnosis of Congenital Syphilis.**—The Wassermann reaction requires so much time and such a complicated technic that it has never attained its maximum usefulness in general practice. Von Dungern has devised a modification of it which is in reality a simplification of Noguchi's method. As a hemolytic system he uses: (1) guinea-pig serum as complement, in the form of complement paper; (2) as amboceptor, goat serum suspended in human blood; (3) the erythrocytes contained in the blood to be examined. As organic extract he uses 1 per cent. alcoholic extract of a guinea-pig's heart. All these materials as well as the very simple apparatus can be obtained ready made at a very reasonable price. It requires very little blood which is a point to be considered in examining children. It requires much less time than the Wassermann, and the physician has only to observe the end results. The question is whether it is as reliable as the Wassermann. Samelson reports thirty-six cases examined by both the Wassermann and v. Dungern methods. The results were in accord in all except one case which gave positive Wassermann with negative von Dungern. The clinical course of the disease made it probable that the negative report was correct. Samelson believes the method is thoroughly reliable.

Zeitschrift für Urologie, Berlin

July, VII, No. 7, pp. 535-614

145 Pyelotomy. Oelsner.
146 Cystic Enlargement and Protrusion of Lower End of Ureter. O. Rumpel.
147 *Gonorrheal Epididymitis and Its Treatment. H. Nakano.

147. **Gonorrheal Epididymitis and its Treatment.**—Nakano states that the outcome was constantly good in his cases of gonococcal epididymitis in which he applied hot cataplasms of 2 per cent. aluminum acetate, as hot as could be borne, renewed every quarter or half hour. He tabulates the outcome in a number of groups of cases treated by twelve different methods. The hot cataplasms gave the best results in every instance.

Zentralblatt für Chirurgie, Leipsic

June 28, XL, No. 26, pp. 1033-1064

148 Germs Carried from Skin into Tissues by the Knife. (Vom Import der Hautkeime durch das Messer.) A. Steinegger.
149 Gloves in Surgery. (Ueber Handschuhverletzungen.) H. Wolff. (Alkoholoperationshandschuhe.) B. Kozlowski.
150 Operative Paralysis of the Triangular Muscle; Three Cases. T. Walzberg.

Zentralblatt für Gynäkologie, Leipsic

June 28, XXXVII, No. 26, pp. 857-988

151 Loop for Pulling out the Uterus in Vaginal Operations. (Drahtschlinge zum unblutigen Vorziehen des Uterus beim vaginalen Operieren.) H. Sellheim.
152 *Lime Content of the Blood in Pregnancy. (Der Kalkgehalt des Blutes in der Schwangerschaft.) G. Linzenmeier.
153 *Attempted Criminal Abortion with Extra-Uterine Pregnancy; Rupture of Tube. H. Singer.

152. **Lime in the Dietary during Pregnancy.**—Linzenmeier's research has confirmed Kehrer's statements in regard to the unusually large proportion of calcium oxid in the blood of pregnant women. But he was unable to confirm Kehrer's finding of a deficiency in the blood of eclamptic women and women in childbed. The proportion in his five eclampsia patients was within normal range. It is evident that the metabolism of calcium oxid is much intensified by the condition of pregnancy. As remarked in an editorial, July 19, page 198, the developing fetus constitutes an immense drain on the lime supply of the mother. Hence the lime is mobilized, and Linzenmeier emphasizes anew the importance of supplying sufficient lime in the dietary to counterbalance the drain during pregnancy. A diet of meat, bread and potatoes contains so little lime that the maternal organism is compelled to yield up its own calcium oxid to the fetus. If we wish to prevent the traditional "loss of a tooth for each child" we must ensure that the diet contains ample proportions of lime. The organism, he declares, easily takes care of a little excess of lime, and only by ensuring an ample supply can we protect the mother from injury. He quotes from Aron's table the following list of foods with their content in grams of calcium oxid in each kilogram: meat, 0.06; potatoes, 0.2; egg albumin, 0.2; white bread, 0.3; oranges, 0.6; cabbage, 0.6; rice, 0.78; dates, 0.8; cocoa, 1.15; peas, 1.2; beans, 1.45; cow's milk, 1.51; yolk of egg, 1.9; spinach, 1.96; butter, 3.5, and cheese (Schweizerkäse) 13.5.

153. **Attempts to Induce Abortion with Extra-Uterine Pregnancy.**—Singer reports three cases and comments on the harm wrought by the curet according to recent literature when it is used to scrape out the non-pregnant uterus with an existing tubal pregnancy. In 200 cases of extra-uterine pregnancy carefully studied, in only 3 per cent. was the diagnosis positive before the rupture of the tube. Curetting the uterus seems to induce conditions in the pregnant tube which compel it to rupture. In one case fifteen minutes after a simple examination revealing a doughy resistance, suggesting possible tubal pregnancy, the woman suddenly collapsed with signs of internal hemorrhage, and the laparotomy, three hours later, on the absolutely pulseless woman showed a recently ruptured tubal pregnancy. If the curet had been applied in this case the woman would probably have succumbed to her internal hemorrhage. The experiences related not only confirm the great dangers from maneuvers for criminal abortion, but they also warn of the necessity for extreme caution in all intrauterine examinations and interventions, on account of a possible extra-uterine pregnancy. Heedless curetting—to say nothing of curetting in the doctor's office—should be absolutely discountenanced as it is liable to lead to very serious consequences, like those related. When it is absolutely necessary to use the curet, all processes outside of and around the uterus should be first excluded—with a fat abdominal wall general anesthesia may be necessary to do this thoroughly. The processes liable to be mistaken for an extra-uterine pregnancy are small tumors and cysts in the adnexa and the retroflexed pregnant uterus. The pregnant uterus may be bent over to the side in which case the cervix may be mistaken for the body of the uterus and the body may simulate a para-uterine tumor.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

May 31, LVII, No. 22, pp. 1523-1614

154 Variola Vaccine as a Source in the Culture of Vaccine Lymph. (Over variola-vaccine als bron bij de kweeking der vaccine lymphe.) H. v. d. Berg.
155 *Effects Following the Ligation of the Pancreatic Duct of the Rabbit. N. Waterman.

June 7, No. 23, pp. 1615-1698

156 *Comparative Anatomy of the Membranous Labyrinth: A Fourth Crista Acustica. (Bijdrage tot de kennis van het vliezig oorlabyrinth.) C. E. Benjamins.
157 *Preperitoneal Injection of Salt Solution. (Praevesicale inspuiting van zoutoplossing.) D. Schoute.

155. **Effects of Ligation of Pancreatic Duct.**—Waterman found that ligation of the duct did not lead to glycosuria, even after the disappearance of the pancreatic tissue and of the islands of Langerhans. But, on the other hand, a hyperglycohemia resulted; in two cases secretin injections did not prevent hyperglycohemia up to 0.19 per cent. and 0.27 per cent. In a third case, secretin did not lower the sugar-content of the blood under the influence of epinephrin, so that in this case also a remarkable hyperglycohemia resulted (0.261 per cent.). These observations decrease the value of glycosuria as a symptom of pancreatitis.

156. **Research on the Membranous Labyrinth.**—In this article Benjamins offers proof that besides the three well known cristae of the labyrinth in vertebrate animals, man included there exists a fourth crista. This fourth crista is located in the inferior sinus of the utricle, close to the ampulla of the posterior semicircular canal. This small organ was first studied by Retzius and named macula neglecta. The conclusions reached are that the macula acustica neglecta of Retzius is not a macula but a crista, and that it is found in

the lower vertebrate animals as a well developed fourth crista, and in the higher animals as a more or less rudimentary organ. The article is profusely illustrated.

157. **Injections of Salt Solution into Prevesical Space.**—After using these injections in twenty-five operations and studying their effects, Schoute reports that within a half hour the absorption is noticeable, and that after an hour the injected fluid has totally disappeared. The salt solution is probably absorbed by the loose connective tissue and the peritoneum; under normal circumstances it does not affect the bladder and the edema does not extend farther than the vesical fascia. In a few cases the peritoneum allowed the solution to pass through into the abdominal cavity.

Gazzetta degli Ospedali e delle Cliniche, Milan

June 24, XXXIV, No. 75, pp. 791-798

158 The Human Bite and Its Complications. (Del morso e delle sue complicazioni.) G. Vitello.

Policlinico, Rome

June 22, XX, No. 25, pp. 877-916

159 Treatment of Diphtheria. T. Pontano.
160 Tuberculosis of the Kidney. (Contributo alla chirurgia della tubercolosi renale.) V. Porcile.

Riforma Medica, Naples

June 21, XXIX, No. 25, pp. 773-800

161 Disappearance from the Blood of the Bacterial Antigens. (Sulla scomparsa degli antigeni batterici dal sangue.) N. Camillo.
162 Cholecystitis. (Studio anatomo petologico e clinico di un caso di colecistite.) A. Poddighe.

Brazil-Medico, Rio de Janeiro

June 1, XXVII, No. 21, pp. 203-212

163 Alleged New Species of Euglenoid Infusorian. (Sobre um novo genero de Euglenoidea.) A. M. da Cunha.
164 Tropic Elephantiasis. E. Moniz.

June 8, No. 22, pp. 213-224

165 *Technic for Detection of Tubercle Bacilli in Sputum. (Novo methodo de homogeneisação de escarros.) A. Fontes.
166 Treatment of Rupture of the Urethra. C. Werneck.

165. **Examination of Sputum.**—Fontes commends the following technic as causing perfect blending with no mineral sediment and no change in the bacteria, while the resulting fluid is less dense than with other technics, permitting rapid centrifugation. To each c.c. of sputum 10 c.c. of a centinormal solution of hydrochloric acid is added and all stirred together with a glass rod until all becomes fluid; then he adds, for each c.c. of the sputum, 10 c.c. of decinormal soda solution and 10 c.c. of hydrogen dioxid. As it foams he adds alcohol, a drop at a time, until the foam disappears. If there is still a little viscosity in the fluid, he adds a few c.c. of water. If the sputum is not very thick the hydrochloric acid may be omitted. The deposit after centrifugation takes stains unusually well.

Semana Medica, Buenos Aires

May 22, XX, No. 21, pp. 1189-1244

167 Efficacy of Emetin in Dysentery. (Dos casos de disenteria tratados con el metodo de Rogers.) J. Destefano.
168 *Test by Weight for Albumin in Urine. (El dosage ponderal de la albumina urinaria por el metafosfato de soda.) E. M. Gache.
169 Posterior Urethroscopy. M. Mackintosh.

May 29, No. 22, pp. 1245-1300

170 Nephrectomy for Cancer. A. Zabala.
171 Artificial Plasmogenesis. (Nuevas experiencias sobre estructuras artificiales.) F. M. Urra.
172 Echinococcus Cysts in the Bones. (Quistes hidatidicos de los huesos.) H. Vilaseca.

June 5, No. 23, pp. 1301-1356

173 The Water-Supply of Towns on Large River. (Abastecimiento de agua a la ciudad de La Plata.) S. Roth.
174 Prohibition and Liquor Drinking. (La prohibicion en lucha contra el alcoholismo. Sus progresos.) V. Delfino.

168. **Gravimetric Test for Albumin in the Urine.**—Gache thinks that sodium metaphosphate is the best substance for coagulating out the albumin as the solution keeps perfectly and the method is more accurate and rapid, he says, than any of the other current technics. The solution is made by dissolving 5 gm. of sodium metaphosphate in 100 c.c. of distilled water. The urine is heated for ten minutes or for fifteen if there is more than 200 c.c. of urine, and then without stirring he adds 5 c.c. of the 5 per cent. solution of sodium metaphosphate; 1 c.c. of sulphuric acid, and 0.25 or 1 c.c. of hydrochloric acid, leaving the whole in the water bath for ten more minutes. On withdrawing from the fire, coagulation has occurred and the fluid is then decanted through a small filter, previously dried at 110 or 120 C., pouring in such a way that the supernatant fluid runs through the filter and the precipitate falls last. The beaker is then rinsed with hot water and cold water until all the precipitate is washed out. The precipitate is further washed on the filter, then washed clean with alcohol and ether, and the filter is then placed between sheets of filter paper and dried until the weight remains constant. The weight of the albumin thus concentrated and calculated for a liter of urine is multiplied by the coefficient 0.88 which gives the weight of albumin in a liter of urine. He says that extensive experience with this estimation of the albumin by weight has proved the reliability and delicacy of the method.

Hospitalstidende, Copenhagen

June 25, LVI, No. 26, pp. 713-744

175 Formation of Uric Acid in Human Body. (Urinsyrens Dannelse hos Mennesket.) I. P. Chrom.
176 Deformity of the Skull Causing Eye Symptoms. (Kraniedeformitet med Øjensymptomer.) H. Larsen. Commenced in No. 25.

Nordiskt Medicinskt Arkiv, Stockholm

XLV, Surgical Section No. 4, Last indexed May 24, p. 1676

177 Operative Treatment of Disease of the Biliary Passages. (Gallenwegekrankheiten.) N. Paus. Commenced in No. 2.
178 Vaginism; Causes and Treatment. A. L. Fönss.
179 Case of Right Intermittent Hydronephrosis Caused by Two Accessory Renal Arteries and Cured by their Removal. O. Aleman.
180 *Traumatic Denudation of the Male Genital Organs. (Evulsio cutis totalis genitallum virilium.) K. Belfrage.

180. **Traumatic Denudation of the Male Genital Organs.**—Belfrage pushed the testicles up into a small pocket made for them together in the lower part of the abdominal wall. The penis was coated with Thiersch flaps. The operation was simple and the ultimate outcome excellent. The front of the trousers and the skin over protruding parts were caught in a thrashing machine and torn off. The wound was so clean that the plastic operation could be done at once. Belfrage knows of eleven cases of similar loss of the skin from gangrene, and six of traumatic origin. Belfrage's patient has never felt the slightest disturbance from the transplanted testicles. It is possible, Belfrage remarks, that the testicles could have been fastened together to make a single organ and have then been covered with Thiersch flaps or with a pedunculated flap from the neighboring skin. His patient, however, already had three children and has been well content with the result of the much simpler operation, namely, merely the pushing up of the testicles into a sheltered nook above.

Ugeskrift for Læger, Copenhagen

June 19, LXXV, No. 25, pp. 1059-1118

181 *Symmetrical Double Percussion. (En ny Metode till Undersøgelse af Lungespidsernes Perkussionsforhold.) T. B. Wernøe.
182 Electrolytic Treatment of Gonorrhea. (Terapeutiske Forsøg ved Gonorré.) O. Jersild. Commenced in No. 24.

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183 Diaphragmatic Hernia. (Tilfælde af Hernia diafragmatica hos en voksen Ftilsker.) L. Melchior.

181. **Double Pleximeter.**—Wernøe says that his double plexímeter is based on a new principle for examining symmetrical conditions in the apices. The pleximeter is shaped something like a tuning-fork only much larger and with a ball on the foot of each shank. The finger presses down hard on the head of the pleximeter while the percussion stroke is very light. The illustrations show the little instrument and the method of its use for symmetrical percussion.

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